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#### **EXECUTIVE SUMMARY**

Environmental Compliance Services, Inc. (ECS) has conducted a site investigation (SI) at the Northern Petroleum Bulk Storage Plant, located at 521 Bay Street in St. Johnsbury, Vermont. The SI was initiated to evaluate the degree and extent of soil and groundwater contamination from petroleum releases at the site, which were considered likely as a result of the reported multiple-decade history of petroleum bulk storage at the site. The SI included a preliminary site evaluation, which included a records review and site inspection, to assist in identifying potential historical contaminant sources. Subsurface investigative activities included the advancement of 32 soil borings, of which 21 were completed as monitoring wells, and an evaluation of potential threats to nearby sensitive receptors. The site and surrounding properties are serviced by municipal water supply and wastewater services. ECS's findings related to this work are summarized as follows:

- Soil and groundwater at the site have been impacted with petroleum-related volatile organic compounds (VOCs) associated with both on-site and off-site sources. Although our preliminary investigation disclosed several potential on- and off-site sources, no obvious source or sources were identified. Potential onsite sources identified include the current and former bulk oil storage aboveground storage tanks (ASTs), current and historical onsite loading and unloading operations, and current and former onsite heating oil underground storage tanks (USTs). Potential offsite sources identified include current and historical bulk storage ASTs (Lewis Oil and former Northern Petroleum bulk plant / office site), historical loading and unloading operations (Lewis Oil, Northern Petroleum former bulk plant / current office site, and former Canadian Pacific Railway), current and former petroleum storage USTs (Windshield World, Lawrence Sangravco, Mobil and Irving Oil), and nearby reported or unreported spills (Lewis Oil).
- The downgradient extent of the contamination appears to be adequately defined. Petroleum contamination exceeding Vermont Groundwater Enforcement Standards (VGESs) extends less than approximately 40 feet downgradient of the site.
- Petroleum contamination appears to have migrated onto the site from one or more upgradient off-site sources. Free-phase petroleum product was detected on the western side of Bay Street, upgradient of the site (MW-28). This location is approximately 40 feet north of existing well MW-102 on the Lewis Oil bulk storage plant. The source of this free product is unknown, but likely originated from a source other than the Northern Petroleum bulk plant. The upgradient extent of groundwater contamination in this area has not been defined.
- The VGESs were exceeded for one or more petroleum hydrocarbons in eleven monitoring wells including one offsite well (MW-8, located less than ten feet east (downgradient) of the southeastern property boundary). Total benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations in these wells ranged from 17.7 μg/L in offsite well MW-8 to 19,440 μg/L in onsite well MW-19. The gasoline additive methyl tert-butyl ether (MTBE) was detected in eight onsite and one offsite wells at concentrations ranging from 4.9 to 6,980 μg/L.
- Free-phase product was measured in offsite wells MW-7 and MW-28 at a thickness of 0.05 and 0.02 feet, respectively. Approximately 0.03 feet of floating product were observed on groundwater in on-site monitoring wells MW-17 and MW-19. TPH in MW-7 was identified as #2 fuel oil; TPH was unidentified in the remaining samples, but calculated as #2 fuel oil and gasoline in MW-17 and MW-19, and gasoline in MW-28.
- An underground water line and a possible second line of unknown nature were identified along the eastern and western sides of Bay Street. Based on the distribution of contaminants along Bay

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Street, and the depth to groundwater in this area, the underground utilities in this area are considered to represent potential exposure and preferential-migration pathways.

- The soils encountered during drilling generally consisted of fine sand with little silt from the ground surface to depths of eight to ten feet. Coarse sand and gravel were encountered in the water table below the fine silty sand layers in several borings. Bedrock was not encountered during the drilling program. Depths to groundwater in the on-site monitoring wells ranged from 3.75 feet (MW-11) to 5.80 feet (MW-17) below top-of-casing.
- During the onsite and off-site soil-boring programs, photoionization detector (PID) readings ranging from 0.0 to 585 parts per million (ppm) were obtained from soil samples collected from the soil borings. Elevated PID readings between 145 and 585 ppm were obtained on soils immediately below ground surface at three soil borings (MW-1, MW-17, and MW-18) located in the northern and central portion of the site, suggesting that this is a likely source area. Currently, there is no ground cover in this area, but the area is located within the gated property boundary of the current bulk plant, limiting access to the general public. Since access to impacted soils in this area is limited, and assuming that the site is to continue to operate as a bulk storage facility, the risk to human exposure is moderate to low. If, however, the site were to undergo construction activities or change operations, then this risk would be expected to increase.
- The groundwater in the unconfined surficial aquifer at the site appears to flow generally southeast toward the Passumpsic River, which is located approximately 700 feet east of the site. No stormwater catchbasins potentially leading to the river were identified onsite or southeast of site. Based on the observed contaminant distribution in groundwater, it is unlikely that the Passumpsic River is impacted or threatened by petroleum contamination from the site.

On the basis of the results of this investigation and the conclusions stated above, ECS recommends the following:

- 1. Given the industrial nature of the surrounding area, the current absence of free product in recoverable amounts, and the relatively low risk of impact to sensitive receptors, active remediation does not appear to be warranted at this time. However, if recoverable amounts of floating free product are discovered in any of the wells, if underground utilities along Bay Street are determined to be been impacted, if site use changes, or if subsequent site monitoring results indicate that VGESs are not likely to be reduced within a reasonable time frame, corrective action will likely be required.
- 2. The site owner of the Lewis Oil property should be contacted to evaluate the source and extent of groundwater contamination in the vicinity of MW-28.
- 3. An additional round of groundwater monitoring is recommended at the site in the January of 2006. Groundwater samples should be collected from all onsite and offsite monitoring wells that do not contain free product, including Lewis Oil site wells MW-2, MW-101, and MW-102, if possible. Samples should be analyzed for EPA Method 8021B-list of VOCs.
- 4. Upon completion of the work activities, a summary report should be prepared which includes boring logs, well construction details, water-quality analytical results, figures showing groundwater flow direction and contaminant distribution, relevant tables, and recommendations for further action.

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5. The underground utilities along Bay Street should be further evaluated to determine whether these utilities are acting as a preferential-migration pathway, and to evaluate whether any subsurface structures, such as manholes and catch basins, may have been impacted. The St. Johnsbury Water Department should be notified of the potential groundwater contamination in this area. Appropriate precautionary and safety measures should be incorporated with any utility work in this area.

#### 1.0 INTRODUCTION

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This report details the results of a Site Investigation (SI) performed by Environmental Compliance Services (ECS) at the Northern Petroleum Bulk Storage Plant, located at 521 Bay Street in St. Johnsbury, Vermont. This work was performed in accordance with the technical elements in ECS proposals dated June 30 and August 12, which were approved by the State of Vermont on July 13 and August 29, 2005.

#### 1.1 OBJECTIVES AND SCOPE OF WORK

The objectives of this site investigation were to:

- Evaluate potential historical contaminant sources, which were considered likely as a result of the reported multiple-decade history of petroleum bulk storage at the site;
- Evaluate the degree and extent of petroleum contamination in soil and groundwater in the vicinity of likely contaminant-source areas, including identified current and historical locations of petroleum storage and use, and along the upgradient edge of the property across from the Lewis Oil site;
- Qualitatively assess the risks to environmental and public health via relevant sensitive receptors and potential contaminant migration pathways; and
- Identify appropriate monitoring and/or remedial actions based on the site conditions.

To accomplish these objectives, ECS has:

- Reviewed available historical documents including aerial photographs and Sanborn Fire Insurance Maps;
- Interviewed facility staff, a former site occupant, and other knowledgeable persons;
- Reviewed available environmental reports on the site and nearby properties;
- Reviewed local files at the St. Johnsbury Town Clerk's office;
- Inspected the site for indications of spills of oils or hazardous chemicals, and any other adverse environmental conditions that may be present. The work addressed both interior and exterior areas with respect to sumps, floor drains, hazardous materials/waste storage areas, and other potential pathways out of the building.
- Screened stained soil areas for the possible presence of volatile organic compounds (VOCs) using a photoionization detector (PID);
- Supervised the advancement of 32 soil borings and subsequent installation of 21 water-table monitoring wells;
- Screened subsurface soils from the soil borings for the possible presence of VOCs using a PID;

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- Identified sensitive receptors in the area, and assessed the risk posed by the contamination to these potential receptors;
- Prepared this summary report, which details the work performed, qualitatively assesses risks, provides conclusions, and offers recommendations for further action.

#### 1.2 SITE DESCRIPTION AND PHYSICAL SETTING

The site operates primarily as a bulk oil storage facility, with a small area in the northern portion of the site used for parking by a local bus shuttle service headquartered on adjacent property north of the site. The property includes two buildings currently used as an office building and storage garage for Northern Petroleum. Neither building has a basement or crawl space. The property also houses bulk oil storage facilities, a propane cylinder and tank storage area, and associated facility parking areas. The ground surface throughout the site is graveled. Stormwater appears to flow to the southeastern corner of the site and ponds near the outside of the bulk storage tank farm. A site plan is shown in Figure 2, and an Area Map is shown in Figure 3.

The surrounding properties are commercial and light-industrial properties located along Bay Street. The site and surrounding properties are serviced by municipal water supply and wastewater services. The Passumpsic River is located approximately 700 feet east of the site. According to the Vermont Agency of Natural Resources Internet Mapping Site of Private Wells, the nearest private water supply well is located approximately ¼-mile southeast of the site, east of the Passumpsic River.

#### 1.3 SITE RECONNAISSANCE

On 12 July 2005, an ECS hydrogeologist inspected the site for indications of spills of oils or hazardous chemicals, and any other adverse environmental conditions that may be present. ECS was accompanied by Curt Utton, Northern Petroleum site manager. The following observations were made:

- The floor throughout both buildings is concrete. Minor cracks were observed in the former office building, but no floor drains or sumps were observed in either building.
- A hazardous waste storage area is located in a small room in the storage garage. Two 55-gallon drums were noted staged on a spill containment pallet. The drums were labeled as containing respective oil-contaminated solids, and oil-contaminated liquids. Both drums were nearly empty during the time of the visit. According to Mr. Utton, a certified hazardous waste hauler periodically transports the waste containers offsite for proper disposal. A spill kit is present in room. Several cans of latex paint were observed near the drums.
- During the initial site reconnaissance, no obvious areas of surficial staining were observed outside on the ground due to a recent rainfall event that concealed potential staining areas. However, during subsequent site visits associated with the drilling activities, minor areas of presumed petroleum staining was observed in the northwestern portion of the site. These areas were included in the drilling program (MW-2 ECS, MW-17, and MW-18).

#### 1.4 OIL STORAGE

The bulk oil storage facilities include gasoline, diesel, kerosene and #2 fuel oil stored in aboveground storage tanks (ASTs) with a total capacity of approximately 130,000 gallons, all of which are located

within an earthen bermed enclosure in the southeastern corner of the site. The base of the berm is composed of six inches of compacted clay. Oil from the bulk tanks is piped underground to a fueling rack located approximately 40 feet north of the tanks. Northern Petroleum currently has a certified Spill Prevention, Control, and Countermeasures (SPCC) Plan for the site; however, provisions for integrity testing of the tanks as required by 40 CFR 112.8 (c)(6) are not provided in the plan. According to the current site operator, integrity testing for the tanks has not been performed since the tanks were installed. Northern Petroleum personnel were unable to confirm whether or not buried piping leading from the ASTs to the loading rack is provided with secondary containment.

One 500-gallon underground storage tank (UST), used to store #2 heating oil for on-site use, is reportedly currently located south of the office building. A former 1,000-gallon UST used to store #2 fuel oil was reportedly located at the storage garage.

Northern Petroleum personnel were unaware of any significant spills or releases or oil at the site.

#### 1.5 NEARBY HIGH RISK PROPERTIES

#### 1.5.1 Lewis Oil Company

Lewis Oil Company bulk petroleum storage facility is located directly across Bay Street west-southwest (upgradient) of the site, and is currently listed on the active Vermont hazardous sites list (SMS Site 98-2484). According to a 1999 Initial Site Investigation report for the Lewis Oil Bulk Storage site, groundwater flow direction across the property was to the southeast, intercepting the southwest corner of the Northern Petroleum Bulk Storage Plant site (TSEC, 1999). A Twin State Environmental map illustrating VOC concentrations detected in groundwater in May 2001 indicated that a monitoring well located near the northern portion of the Lewis Oil site (existing well MW-102) had a total TPH concentration of 4,100 milligrams per liter (mg/L) (Figure 4). Three additional monitoring wells associated with the Lewis Oil site (MW-2, MW-101, and MW-1R) are located along the east side of Bay Street in the right-of-way adjacent to the Northern Petroleum site. These three monitoring wells were included in ECS's sampling plan for this SI.

#### 1.5.2 Former Canadian Pacific Railway

The former Canadian Pacific Railway - St. Johnsbury Rail Yard Site, located west and northwest (upgradient) of the site, is currently listed on the active Vermont hazardous sites list (SMS Site 98-2356). The VT DEC's active sites list indicates that polycyclic aromatic hydrocarbons (PAHs) have been detected in the soils, but no remediation is required by the State. Additional soil samples were to be collected to define the degree and extent of arsenic in the subsurface.

#### 1.5.3 Former Northern Petroleum Former Bulk Plant / Current Office Site

The Northern Petroleum Company former bulk plant / current office site, located across Bay Street directly north (crossgradient) of the site, is an active Vermont hazardous site (SMS Site 91-1169). A number of subsurface investigations and corrective action feasibility studies have reportedly been performed at this site. In a 2002 summary letter, Lincoln Applied Geology (LAG) indicated that "efforts at increasing free product containment and recovery using pump and treat technologies, free product only pumping, air sparging, and soil vapor extraction methodologies indicated minimal benefits could be achieved". Groundwater flow direction calculated in August 2001 was to the southeast. LAG indicated that the dissolved-phase

contaminant plume has occupied the same basic footprint and has not migrated since 1992, with a slow decrease in overall size due to natural attenuation processes (LAG, 2002). This site is currently undergoing passive product recovery.

#### 1.5.4 <u>Lawrence Sangravco</u>

The Lawrence Sangravco site, located immediately northeast (cross- or downgradient) of the site, is an active Vermont hazardous site (SMS Site 92-1244). The VT DEC's active site database indicated that no further action is required at the site pending results at the Northern Petroleum office site. Petroleum contamination was discovered in 1992 in soils during the removal of a #2 fuel oil UST.

#### 1.5.5 Former Ralston Purina

The former Ralston Purina property, located immediately east (downgradient) of the site, is an active Vermont hazardous site (SMS Site 95-1844). A subsurface investigation relative to a leaking gasoline UST removed in 1995 is currently underway.

#### 1.5.6 Carlet, Gilson and Hurley

The Carlet, Gilson and Hurley property, which is a closed Vermont hazardous site as of December 1999 (SMS Site 97-2187), is located to the south, across from the Ralston Purina access road in the likely downgradient direction relative to the site.

#### 1.5.7 Windshield World (Achilles Property)

Windshield World, located approximately 400 feet west-southwest (upgradient) of the site, is an active Vermont hazardous site (SMS Site 93-1549). According to a 1994 environmental report, soil and groundwater at this property were impacted by petroleum-related VOCs associated with a gasoline UST. Groundwater flow was indicated to the north (toward the subject site) following a relatively steep gradient. Other than the Passumpsic River, no other sensitive receptors were identified and quarterly sampling was recommended (LAG, 1994). The VT DEC's active sites list indicates that this site is currently undergoing groundwater monitoring.

#### 1.5.8 Upgradient Gasoline Service Stations

An Irving and a Mobil gasoline service station are located in the likely upgradient direction of the site approximately 300 and 450 feet to the northwest, respectively. Neither of these stations is listed on the Vermont hazardous sites list (active or closed).

#### 1.6 SITE AND AREA HISTORY

The site has been used for bulk petroleum storage for several decades, during which time at least three different bulk petroleum facilities have operated at the site. Since 1990, the site has been operated as a Northern Petroleum bulk storage facility. In 1990, the current generation of ASTs were reportedly moved to the site from a Northern Petroleum property located at 590 Bay Street. According to the SPCC Plan for the site, the current generation of onsite ASTs were originally constructed in 1953 (four tanks) and 1962 (two tanks).

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For an unknown period prior to 1990, the site was operated as a petroleum bulk storage facility by Menut & Parks. Another petroleum bulk storage operation reportedly preceded the Menut & Parks business. Aerial photographs dated 1962, 1974, and 1983 illustrate four apparent horizontal bulk storage ASTs located in the northeastern portion of the property, and three apparent vertical bulk storage tanks in the east-center portion of the site. Available Sanborn maps for St. Johnsbury did not include coverage of the site to confirm the history of the site in the late 1980s to early 1990s.

The Lewis Oil site has reportedly served as a bulk oil storage facility for over 50 years. Prior to 1990, fuel was offloaded by rail car at a rack located approximately 80 feet west (upgradient) of the site. In a Phase II report conducted for the former Canadian Pacific Railway, approximately 120 cubic yards of petroleum-contaminated soil were reportedly excavated and stockpiled on the Lewis Oil site in 1990 (Tewhey, 1998). According to the VT DEC spill sites list, approximately 200 gallons of #2 fuel oil were released in January 1999 due to a tank overfill. The spills database indicated that Twin State provided clean up and the spill site was subsequently closed in February 1999.

A lubricating oil business has occupied the former Northern Petroleum Bulk Storage / office site for approximately 25 years.

The former Canadian Pacific Railway property has operated as a rail yard facility since the 1850s. The central portion of the rail yard formerly included fueling operations in the 1960s, approximately 600 feet northwest of the site (Tewhey, 1998).

## 2.0 INVESTIGATIVE PROCEDURES AND RESULTS

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#### 2.1 SOIL BORING / MONITORING WELL INSTALLATION

On 18 and 19 July 2005, ECS supervised the completion of 22 soil borings and subsequent installation of 14 monitoring wells (MW-1, MW-2 ECS, MW-4, MW-5, MW-7, MW-8, MW-11, MW-12, MW-13, MW-16, MW-17, MW-18, MW-19 and MW-22) on or immediately adjacent to the site to further characterize contaminant and hydrogeologic conditions at the site. Based on the results of the initial drilling activities, ECS returned to the site on 12 October 2005 to supervise the completion of ten additional soil borings and subsequent installation of seven additional monitoring wells (MW-26 through MW-32) on up gradient and downgradient properties to further delineate the lateral extent of contamination.

During drilling activities, soil samples were collected continuously from each boring to characterize, screen using a PID, and/or submit for laboratory analysis. The soils generally consisted of fine sand with little silt from below grade to depths of eight to ten feet. Coarse sand and gravel were encountered in the water table below the fine silty sand layers in several borings. Strong petroleum odors were observed in the many of the borings. Bedrock was not encountered during the drilling program.

ECS installed all soil borings using direct-push drilling methodology. Soil samples were collected continuously using four-foot long polyethylene sleeves. All downhole drilling and sampling equipment was decontaminated during use, as appropriate. The monitoring wells were constructed with one-inch diameter polyvinyl chloride (PVC) casing and factory-slotted 0.010-inch slot screen. A ten-foot screen section was set within the presumed groundwater level. Sections of solid PVC riser were added to bring the tops of the well casings to approximately 0.5 feet below ground surface (bgs). Clean silica #1 filter sand was placed in the borehole annulus around each well up to approximately two feet above the slotted interval. A granular bentonite seal, approximately one foot thick, was set above the sand pack, and the remainder of the annular space was backfilled with native material. A flush-mounted steel roadbox was placed over each monitoring well and cemented into place.

All wells were developed using pre-cleaned bailers and dropline. All purge water was discharged to the ground surface in the vicinity of each well. Monitoring-well construction details are included on the soilboring and well-construction logs in Appendix A.

On 29 July and 19 October 2005, the newly installed monitoring wells were surveyed relative to existing site features, with an azimuth precision of  $\pm$  1.0 feet and an elevation precision of  $\pm$  0.01 feet.

#### 2.2 SOIL-SCREENING RESULTS

PID readings ranging from 0.0 to 585 parts per million (ppm) were obtained from soil samples collected from the soil borings. Elevated PID readings between 145 and 585 ppm were obtained on soils immediately below ground surface at three soil borings (MW-1, MW-17, and MW-18) located in the northern and central portion of the site, suggesting that this is a likely source area. PID readings ranging from 10.2 to 76.4 ppm were obtained on soils from the zero to three-foot interval at ten locations throughout the site. PID readings less than 10 ppm were obtained in soil borings SB-3, SB-6, SB-9, SB-9, SB-10, SB-14, and SB-21. Table 1 is a summary of elevated PID readings.

An ECS hydrogeologist screened soil samples from discrete intervals in each soil boring for the possible presence of VOCs using a Thermo 580B portable PID. The PID was calibrated in the field with an

isobutylene standard gas to a benzene reference. Soil samples were placed into a polyethylene bag, which was then sealed, agitated, and allowed to equilibrate. The PID probe was inserted into the headspace, and the highest reading was recorded. PID screening results are included on the boring logs in Appendix A.

#### 2.3 SOIL SAMPLING RESULTS

Soil samples were collected from two intervals (above and below the water table) in seven soil borings including MW-1, MW-2, MW-5, MW-12, MW-13, MW-17, and MW-18 and submitted for laboratory analysis of the EPA Method 8021B list of petroleum-related VOCs<sup>1</sup> and TPH diesel-range organics (DRO) by EPA Method 8015. Five of the samples were analyzed and fractional organic carbon (FOC).

The VOC analytical results were compared to the U.S. EPA Region IX Preliminary Remedial Goals (PRGs) for industrial sites. The State of Vermont has not established enforceable standards for soils; VT DEC currently evaluates soil data on a site-by-site basis commonly using the PRGs. The PRGs were exceeded for one or more VOC in MW-1 (from below the water table), MW-2 (from above the water table), and in MW-17 and MW-18 (from both above and below the water table).

The TPH concentrations ranged from 55.9 to 17,700 milligrams per kilogram (mg/Kg). TPH was identified as #2 fuel oil in four borings including MW-1 and MW-12 (above the water table), MW-5 (below the water table), and MW-13 (both above and below the water table). TPH was unidentified in the remaining samples, but calculated as #2 fuel oil, which most closely approximated the distribution of compounds in the sample<sup>2</sup>. TPH concentrations in a sample in MW-1 (below the water table) and MW-2 (above the water table) were calculated as #2 fuel oil and "other oil". Other oil includes lubricating and cutting oil and silicon oil.

The FOC values for the five samples range from 0.0054 to 0.0151. These data is expected to be used in future remedial evaluations for the site.

Table 2 presents a summary of the VOC, TPH, and FOC results; and the laboratory analytical report are presented in Appendix C. Soil contaminant distribution maps for samples collected above and below the water table are shown in Figures 5 and 6, respectively.

Two duplicate samples were collected from MW-3 and MW-5 to ensure that adequate QA/QC standards were maintained. All field procedures were conducted in accordance with ECS standard protocols. The relative percent difference (RPDs) for five VOCs in one of the duplicate samples was over the 30 percent, EPA guidance recommended limits for field duplicate QA/QC. This is likely attributed to the lack of complete homogeneity in the two samples. Following review of the data and discussion with the analytical laboratory, these exceedances are not considered to have affected the validity of the sample results. Sampling procedures were conducted in accordance with ECS standard protocols. The QA/QC results are included in Table 3.

#### 2.4 GROUNDWATER CHARACTERISTICS

Based on the hydrogeologic data, groundwater in the unconfined surficial aquifer at the site appears to flow generally southeast toward the Passumpsic River (Figure 3). Groundwater elevation data suggests

<sup>&</sup>lt;sup>1</sup> Using EPA Method 8260B

<sup>&</sup>lt;sup>2</sup> According to Spectrum Analytical, samples in which the petroleum contaminants cannot be positively identified may represent a mixture of contaminants, a contaminant outside of the calibration range, and/or represent a natural degradation of the contaminant(s) in the sample.

that a water-table anomaly is located at MW-11, as the water table appears to be elevated at this location relative to the other nearby wells. The average horizontal hydraulic gradient is approximately 0.18 percent between MW-13 and MW-17. The vertical groundwater flow components at the site, and the hydraulic relationship between the shallow unconfined aquifer and the bedrock aquifer, are currently unknown.

Fluid levels were measured in the onsite monitoring wells on 29 July 2005 to calculate the groundwater flow direction. Depths to groundwater in the on-site monitoring wells ranged from 3.75 feet (MW-11) to 5.80 feet (MW-17) below top-of-casing.

Static water-table elevations were computed for each monitoring well by subtracting the measured depth-to-water readings from the surveyed top-of-casing elevations, which are relative to an arbitrary site datum of 100.00 feet. Water-level measurements and elevation calculations are presented in Table 1. A groundwater flow direction map was prepared using these data (Figure 3). Fluid levels were measured in offsite wells on 19 October 2005 during the secondary groundwater-sampling event. This groundwater elevation data is presented on Figure 3; however the data was not incorporated in groundwater flow map as the overall water table was likely to have been higher during the October event. Field notes are presented in Appendix B.

#### 2.5 SAMPLING AND ANALYSIS

Groundwater or product samples were collected on 29 July and 19 October 2005 from the 21 newly installed monitoring wells and three existing wells and submitted for laboratory analysis. Product samples from four wells (MW-7, MW-17, MW-18, and MW-28) were analyzed for TPH by EPA method 8100 (product ID). Samples collected from the remaining 20 wells were analyzed for the EPA Method 8021B list of petroleum-related VOCs and TPH DRO by EPA Method 8015.

Vermont Groundwater Enforcement Standards<sup>4</sup> (VGESs) were exceeded for one or more petroleum hydrocarbons in samples collected from eleven monitoring wells including one offsite (downgradient) well. Total benzene, toluene, ethyl benzene, and xylenes (BTEX) concentrations in these samples ranged from 17.7 micrograms per liter ( $\mu$ g/L) in offsite well MW-8 to 19,440  $\mu$ g/L in onsite well MW-19. The total BTEX concentration in existing well MW-2 (Lewis Oil site) was 733.7  $\mu$ g/L. Based on the groundwater flow direction and history of contamination at the Lewis Oil site, it is probable that groundwater contamination has migrated from the Lewis Oil site onto the subject site at this location.

Low concentrations (below the VGESs) of three VOCs were detected in off-site well MW-30. No petroleum VOCs were detected in off-site wells MW-26, MW-27, MW-29, MW-31, MW-32, MW-101, or MW-1R.

The gasoline additive methyl tert-butyl ether (MTBE) was detected in nine wells located throughout the site in concentrations ranging from 4.9  $\mu$ g/L in MW-12 to 6,980  $\mu$ g/L in MW-1. MTBE was not detected in existing offsite well MW-2 (near the Lewis Oil bulk plant) and onsite well MW-12.

<sup>&</sup>lt;sup>4</sup> Vermont Groundwater Enforcement Standards (VGESs) for eight petroleum related VOCs are as follows: benzene - 5  $\mu$ g/L; toluene — 1,000  $\mu$ g/L; ethylbenzene - 700  $\mu$ g/L; xylenes — 10,000  $\mu$ g/L.; MTBE, a gasoline additive, - 40  $\mu$ /L; naphthalene — 20  $\mu$ g/L; 1, 2, 4-trimethylbenzene — 5  $\mu$ g/L; and 1, 3, 5-trimethylbenzene — 4  $\mu$ g/L.

Free-phase product was measured in offsite wells MW-7 and MW-28 at a thickness of 0.05 and 0.02 feet, respectively. Approximately 0.03 feet of floating product were observed on groundwater in on-site monitoring wells MW-17 and MW-19. TPH in MW-7 was identified as #2 fuel oil; TPH was unidentified in the remaining samples, but calculated as #2 fuel oil and gasoline in MW-17 and MW-19, and gasoline in MW-28. (see footnote #2 on the previous page). MW-28 is located approximately 30 feet west, upgradient, of the site property line. MW-7 is located approximately five feet east, downgradient, of the property line and downgradient of the current bulk storage ASTs. MW-19 and MW-17 are located in the northwestern portion of the site near and south of former onsite bulk storage ASTs.

Where detected, TPH concentrations in the groundwater samples ranged from 0.4 milligrams per liter (mg/L) in MW-101 to 15.3 mg/L in MW-18. TPH was identified as #2 fuel oil in MW-11, and was unidentified in the remaining samples, but calculated as #2 fuel oil in eleven of the wells. TPH concentrations in the MW-4, MW-31, MW-101, and MW-1R samples were calculated as "other oil".

Prior to groundwater sample collection, all monitoring wells that did not contain detectable thicknesses of free product were purged with a bailer and then sampled using disposable bailers and dropline, in accordance with ECS standard protocols. Purge water was discharged directly to the ground in the vicinity of each well. A trip blank and a duplicate sample were collected to ensure that adequate quality assurance/quality control (QA/QC) standards were maintained.

All samples were transported under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts, where they were analyzed for the possible presence of VOCs by EPA Method 8021B and for TPH by EPA Method 8015 DRO.

Analytical results of the duplicate samples, collected from MW-16 and MW-30, were within 32 and 20 percent relative percent difference (RPD) of the original sample results, respectively. All laboratory control standards including matrix spikes, method blanks, and quality control analysis were within established laboratory acceptance limits. Sampling technique was performed in accordance with ECS's Standard Operating Procedures. No petroleum-related compounds were detected in the trip blank. Groundwater analytical results are included in Table 4 and the laboratory analytical reports are presented in Appendix C. A groundwater Contaminant Distribution Map is shown in Figure 7.

#### 3.0 CONCEPTUAL SITE MODEL

The site and limited portions of adjacent property to the east and west have been impacted by two or more petroleum contaminants including #2 fuel oil, gasoline, and possibly a third unidentified oil. Contaminant distribution and historical information indicates that the contamination likely originated from multiple sources. No obvious onsite sources, such as a leaking storage tank or spills, have been documented. Two contaminant plumes have been identified and are described below. Groundwater in the unconfined surficial aquifer appears to flow generally southeast toward the Passumpsic River, with an average horizontal hydraulic gradient of approximately 0.18 percent.

#### 3.1 NORTHWESTERN PLUME

The northwestern plume is the larger of the two and is defined by three areas of free product detected in MW-17, MW-19, and MW-28. The outer limits are delineated by reduced VOC concentration in wells and/or relatively low PID readings in soil borings around the northern, eastern, and southern perimeters at MW-27, MW-26, SB-20, SB-6, SB-21, SB-3, SB-15, and MW-4, respectively. The western extent of this plume beyond MW-28 has not been defined.

Data collected to-date suggest that a release related to the former bulk storage tanks may have contributed to the contamination in this portion of the site, but an offsite source west (upgradient) of MW-28 also is considered likely. No. 2 fuel oil was identified in soils above the water table in MW-1, and estimated in MW-2 ECS, MW-17 and MW-18 in soil both above and below the water table. Other oil, (which may include lubricating, cutting, and/or silicon oil) was also estimated above the water table in MW-2 ECS. No. 2 fuel oil and gasoline were identified in groundwater in these wells. Subsurface soils in this area generally consist of a fine to medium sand upper layer with underlying coarse sand and gravels. In all soil borings, the top of the water table is within the finer sands. PID readings in soil borings indicate that the vertical extent of contamination extends into the underlying coarse sand and gravel, where present. PID readings at six soil boring locations increase with increasing depth.

#### 3.2 SOUTHEASTERN PLUME

This smaller plume is defined by one area of free product detected in MW-7. The downgradient limits are delineated by reduced VOC concentration in wells and/or relatively low PID readings in soil borings in MW-29 through MW-32, SB-9 and SB-10. This downgradient limit extends less that approximately 40 feet beyond the Northern Petroleum property line. The upgradient extent of this plume appears less discernable and may merge with the northwestern contaminant plume.

Data collected to-date suggest that a release related to the current bulk storage tank system may have contributed to the contamination in this portion of the site. No. 2 fuel oil was identified in soils both above and below the water table in MW-5 and MW-12, both of which are located upgradient of MW-7. No. 2 fuel oil was also identified in groundwater in wells in this area. The hydrogeology in this area of the site is similar to that described in the previous section. PID readings in soil borings indicate that the vertical extent of contamination extends into the underlying coarse sand and gravel layer, generally decreasing in concentration with increasing depth.

### 4.0 SENSITIVE RECEPTOR SURVEY AND RISK ASSESSMENT

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#### 4.1 SENSITIVE RECEPTOR SURVEY

ECS conducted a survey to identify sensitive receptors in the vicinity of the Northern Petroleum Bulk Plant that could potentially be impacted by contamination associated with the site. The following sensitive receptors were identified in the vicinity of the property.

- The soils in the northwestern and southeastern portion of the site, where elevated PID readings and visual evidence of petroleum contamination were observed in soil borings;
- Underground utility corridor along Bay Street; and
- The Passumpsic River, located approximately 700 feet east of the site.

#### 4.2 RISK ASSESSMENT

ECS qualitatively assessed the risks that the residual soil and dissolved-phase subsurface contamination poses to the receptors identified above. In general, human exposure to petroleum-related contamination is possible through inhalation, ingestion, or direct contact while impacts to environmental receptors are due either to a direct release or contaminant migration through one receptor to another or along a preferential pathway.

- Onsite surface soils Elevated VOCs were detected by PID, and heavy sheening was observed in soil samples collected from shallow depths at several soil boring locations during the drilling activities. Currently, there is no pavement or other protective surface in this area, but the area is located within the gated property boundary of the current bulk plant, limiting access to the general public. Since access to impacted soils in this area is limited, and assuming that the site is to continue to operate as a bulk storage facility, the risk to human exposure is moderate to low. If, however, the site were to undergo construction activities or change operations, then this risk would be expected to increase.
- <u>Underground utility corridor</u> According to the Town of St. Johnsbury Water Department, an underground water line runs parallel with Bay Street near the eastern side. The water department identified a possible second line of unknown orientation along the western side during the drilling activities. Based on the distribution of contaminants along Bay Street, and the depth to groundwater in this area (around five to six feet below grade) the underground lines in this area may be impacted, threatened, and/or represent a potential preferential migration pathway.
- Passumpsic River The Passumpsic River is located approximately 700 feet east of the site. Based on field screening and site observation during drilling activities, it appears that the limit of the groundwater contaminant plume along the northern portion is largely restricted to within the site boundary. Near the southern portion of the site, no VOCs were detected in downgradient monitoring wells (on the former Ralston Purina site). It is therefore unlikely that the Passumpsic River is impacted by petroleum contamination from the site.

#### 5.0 SUMMARY & CONCLUSIONS

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Our primary findings and conclusions of this investigation are summarized as follows:

- Soil and groundwater at the site have been impacted with petroleum-related VOCs associated with both on-site and off-site sources. Although our preliminary investigation disclosed several potential on- and off-site sources, no obvious source or sources were identified. Potential onsite sources identified include the current and former bulk oil storage ASTs, current and historical onsite loading and unloading operations, and current and former onsite heating oil USTs. Potential offsite sources identified include current and historical bulk storage ASTs (Lewis Oil and former Northern Petroleum bulk plant / office site), historical loading and unloading operations (Lewis Oil, Northern Petroleum former bulk plant / current office site, and former Canadian Pacific Railway), current and former petroleum storage USTs (Windshield World, Lawrence Sangravco, Mobil and Irving Oil), and nearby reported or unreported spills (Lewis Oil).
- The downgradient extent of the contamination appears to be adequately defined. Petroleum contamination exceeding VGESs extends less than approximately 40 feet downgradient of the site.
- Petroleum contamination appears to have migrated onto the site from one or more upgradient off-site sources. Free-phase petroleum product was detected on the western side of Bay Street, upgradient of the site (MW-28). This location is approximately 40 feet north of existing well MW-102 on the Lewis Oil bulk storage plant. The source of this free product is unknown, but likely originated from a source other than the Northern Petroleum bulk plant. The upgradient extent of groundwater contamination in this area has not been defined.
- The VGESs were exceeded for one or more petroleum hydrocarbons in eleven monitoring wells including one offsite well (MW-8, located less than ten feet east (downgradient) of the southeastern property boundary). Total BTEX concentrations in these wells ranged from 17.7 μg/L in offsite well MW-8 to 19,440 μg/L in onsite well MW-19. The gasoline additive MTBE was detected in eight onsite and one-offsite wells at concentrations ranging from 4.9 to 6,980 μg/L.
- Free-phase product was measured in offsite wells MW-7 and MW-28 at a thickness of 0.05 and 0.02 feet, respectively. Approximately 0.03 feet of floating product were observed on groundwater in on-site monitoring wells MW-17 and MW-19. TPH in MW-7 was identified as #2 fuel oil; TPH was unidentified in the remaining samples, but calculated as #2 fuel oil and gasoline in MW-17 and MW-19, and gasoline in MW-28.
- An underground water line and a possible second line of unknown nature were identified along the eastern and western sides of Bay Street. Based on the distribution of contaminants along Bay Street, and the depth to groundwater in this area, the underground utilities in this area are considered to represent potential exposure and preferential-migration pathways.
- The soils encountered during drilling generally consisted of fine sand with little silt from the ground surface to depths of eight to ten feet. Coarse sand and gravel were encountered in the water table below the fine silty sand layers in several borings. Bedrock was not encountered

during the drilling program. Depths to groundwater in the on-site monitoring wells ranged from 3.75 feet (MW-11) to 5.80 feet (MW-17) below top-of-casing.

- During the onsite and off-site soil-boring programs, PID readings ranging from 0.0 to 585 ppm were obtained from soil samples collected from the soil borings. Elevated PID readings between 145 and 585 ppm were obtained on soils immediately below ground surface at three soil borings (MW-1, MW-17, and MW-18) located in the northern and central portion of the site, suggesting that this is a likely source area. Currently, there is no ground cover in this area, but the area is located within the gated property boundary of the current bulk plant, limiting access to the general public. Since access to impacted soils in this area is limited, and assuming that the site is to continue to operate as a bulk storage facility, the risk to human exposure is moderate to low. If, however, the site were to undergo construction activities or change operations, then this risk would be expected to increase.
- The groundwater in the unconfined surficial aquifer at the site appears to flow generally southeast toward the Passumpsic River, which is located approximately 700 feet east of the site. No stormwater catchbasins potentially leading to the river were identified onsite or southeast of site. Based on the observed contaminant distribution in groundwater, it is unlikely that the Passumpsic River is impacted or threatened by petroleum contamination from the site.

## 6.0 RECOMMENDATIONS

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On the basis of the results of this investigation and the conclusions stated above, ECS recommends the following:

- 1. Given the industrial nature of the surrounding area, the current absence of free product in recoverable amounts, and the relatively low risk of impact to sensitive receptors, active remediation does not appear to be warranted at this time. However, if recoverable amounts of floating free product are discovered in any of the wells, if underground utilities along Bay Street are determined to be been impacted, if site use changes, or if subsequent site monitoring results indicate that VGESs are not likely to be reduced within a reasonable time frame, corrective action will likely be required.
- 2. The site owner of the Lewis Oil property should be contacted to evaluate the source and extent of groundwater contamination in the vicinity of MW-28.
- 3. An additional round of groundwater monitoring is recommended at the site in the January of 2006. Groundwater samples should be collected from all onsite and offsite monitoring wells that do not contain free product, including Lewis Oil site wells MW-2, MW-101, and MW-102, if possible. Samples should be analyzed for EPA Method 8021B-list of VOCs.
- 4. Upon completion of the work activities, a summary report should be prepared which includes boring logs, well construction details, water-quality analytical results, figures showing groundwater flow direction and contaminant distribution, relevant tables, and recommendations for further action.
- 5. The underground utilities along Bay Street should be further evaluated to determine whether these utilities are acting as a preferential-migration pathway, and to evaluate whether any subsurface structures, such as manholes and catch basins, may have been impacted. The St. Johnsbury Water Department should be notified of the potential groundwater contamination in this area. Appropriate precautionary and safety measures should be incorporated with any utility work in this area

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### 7.0 REFERENCES

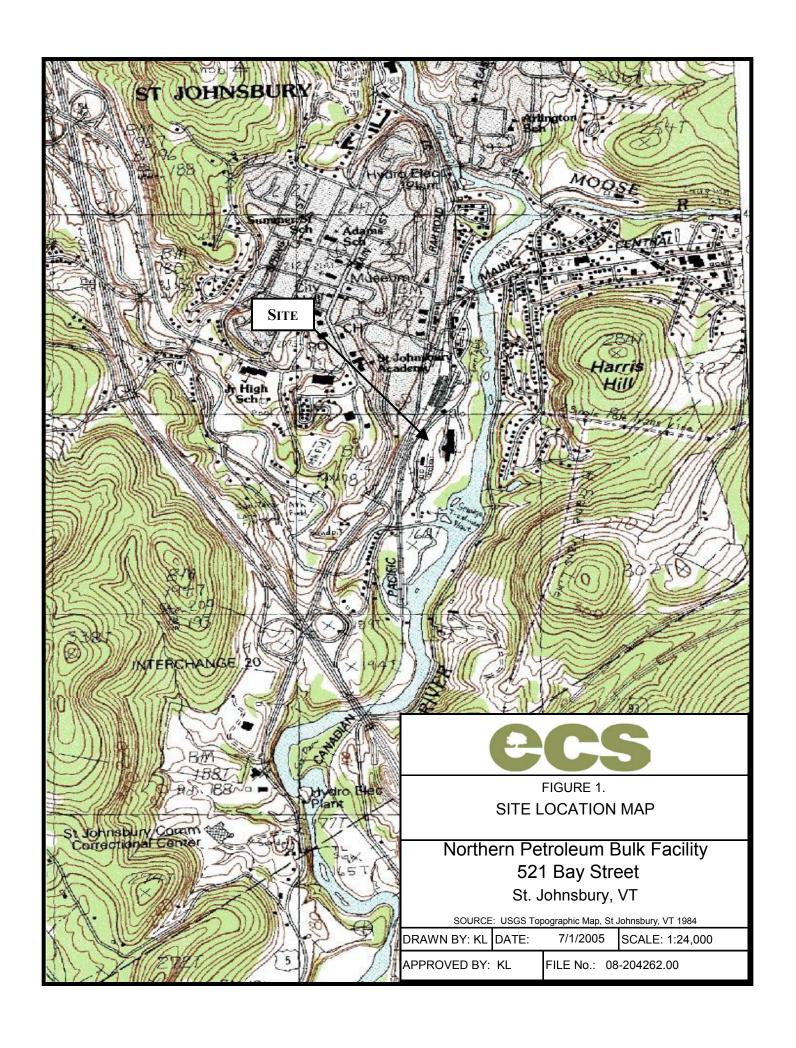
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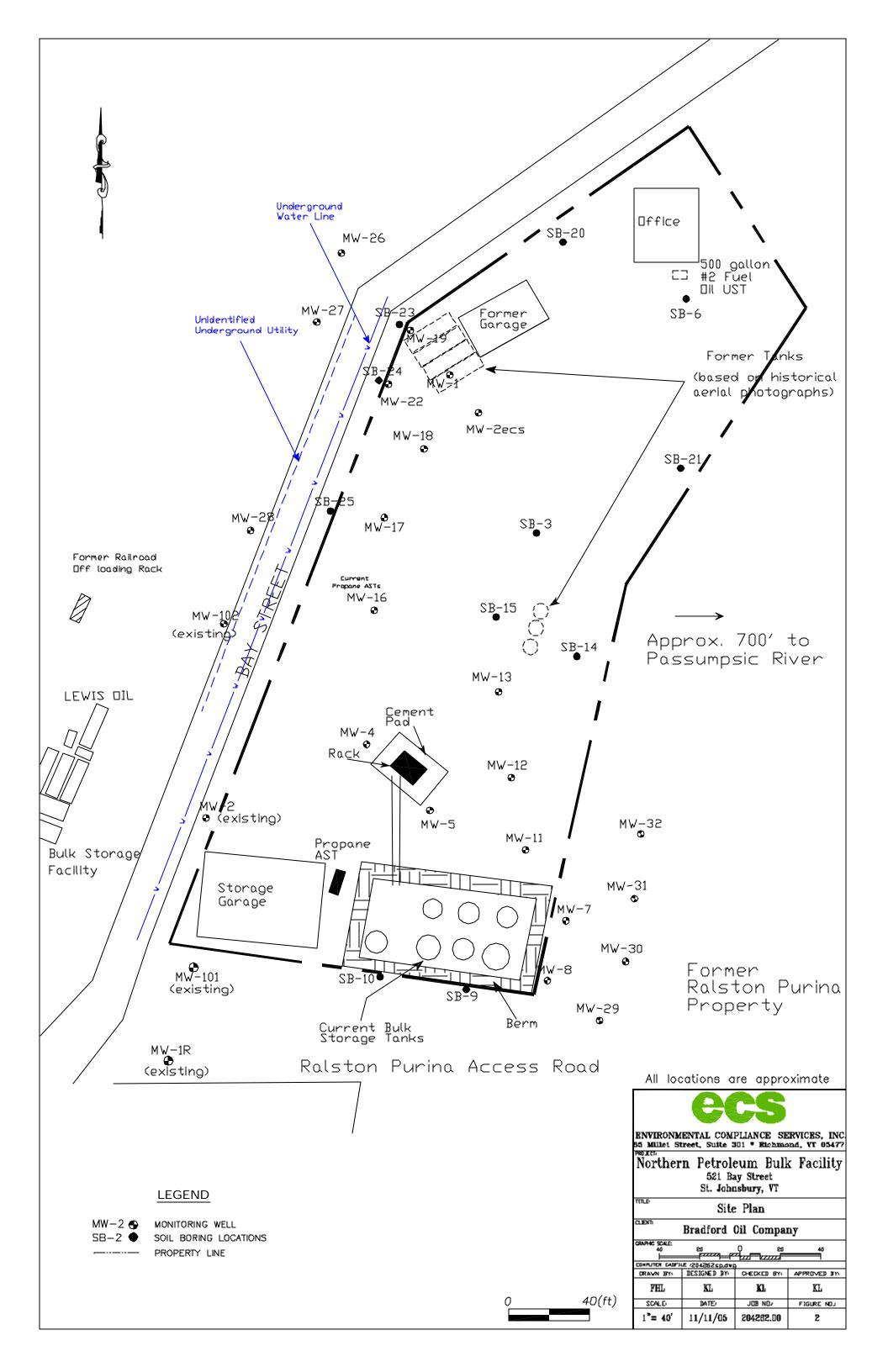
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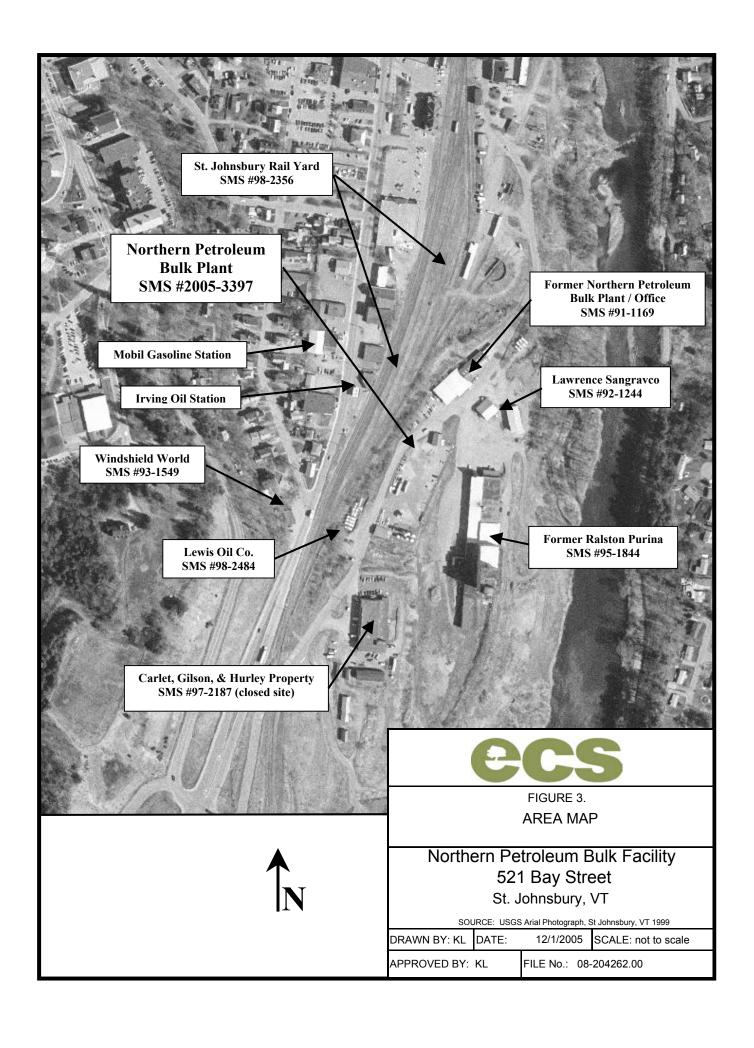
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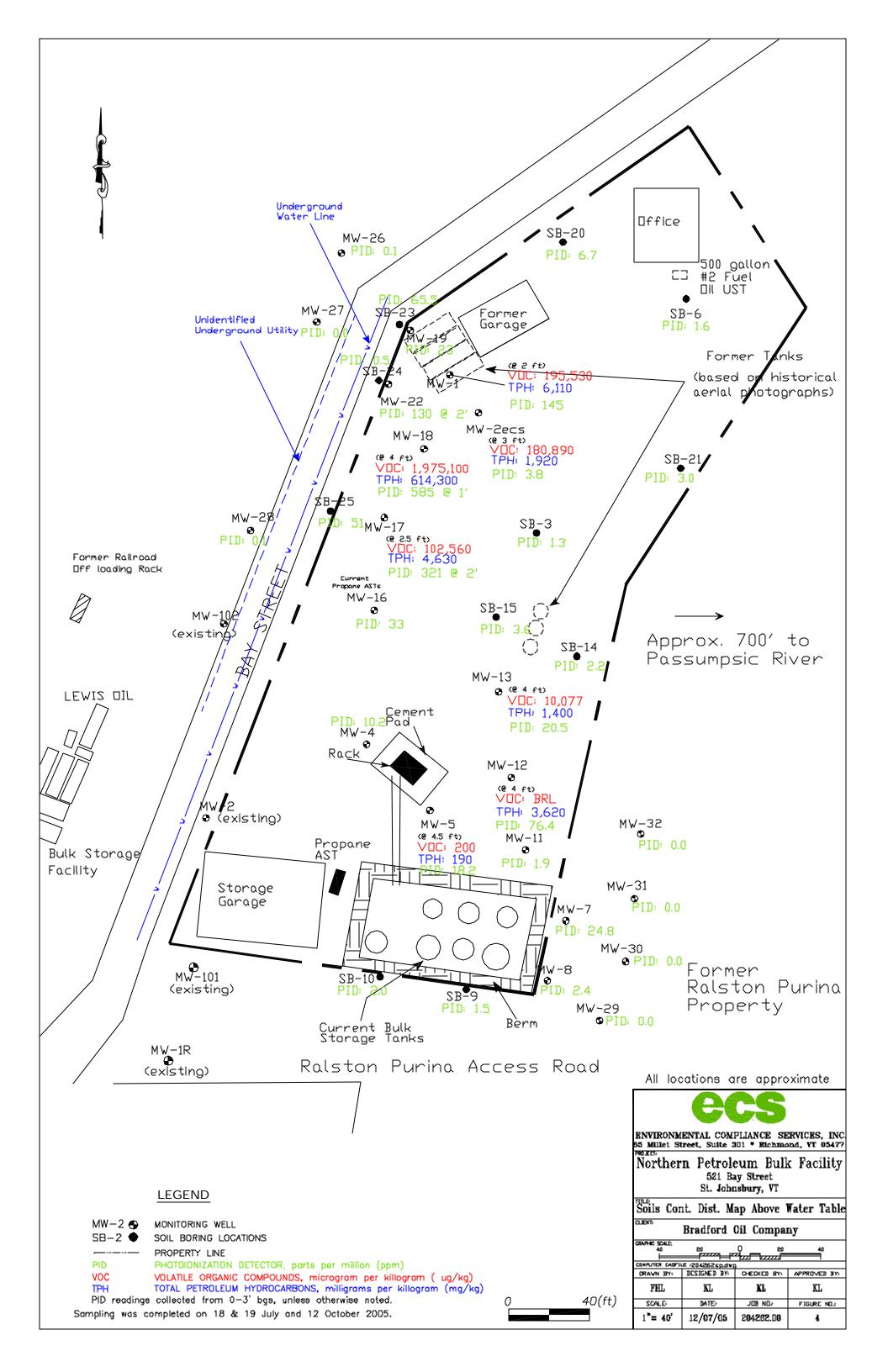
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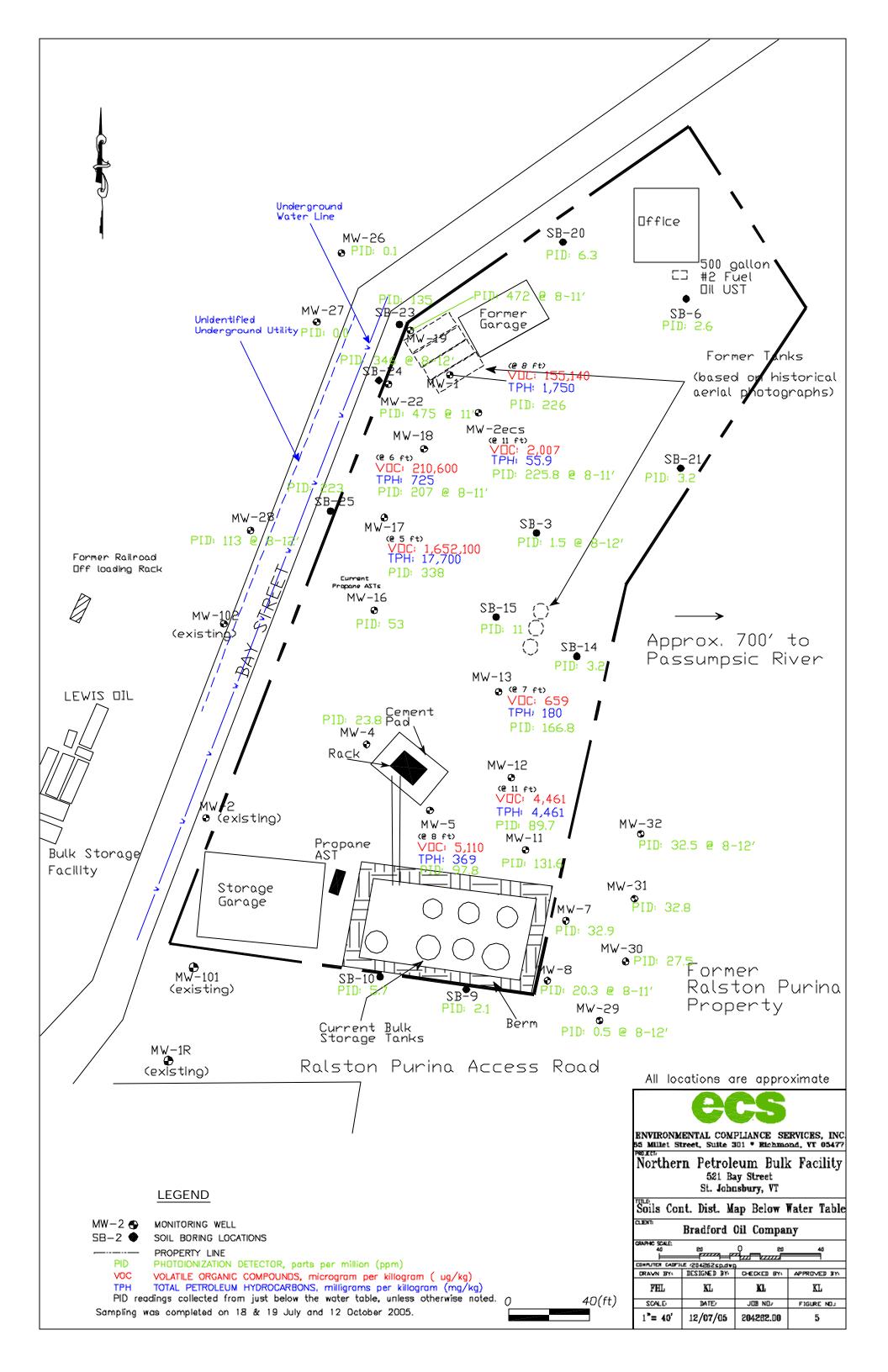
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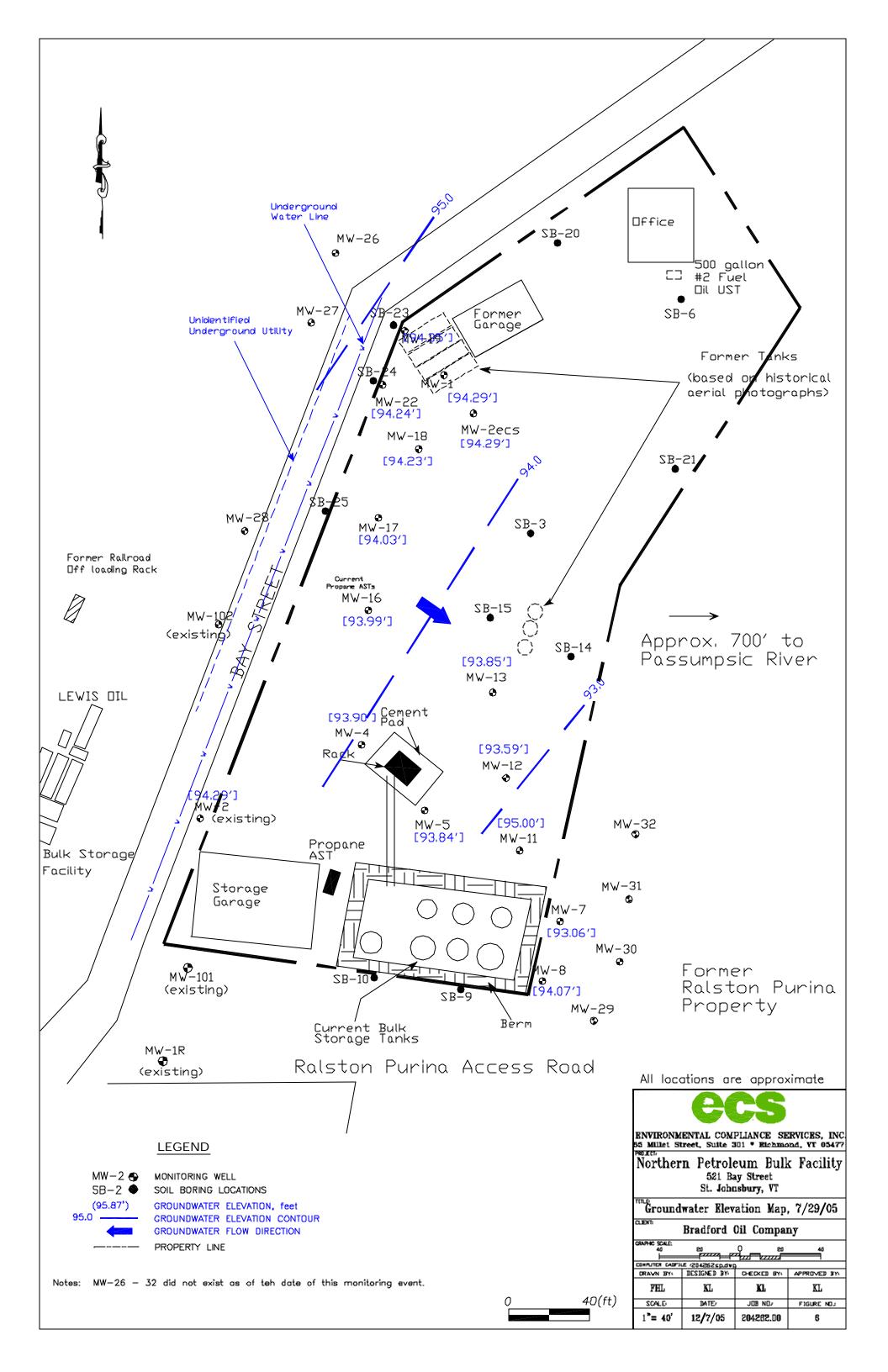


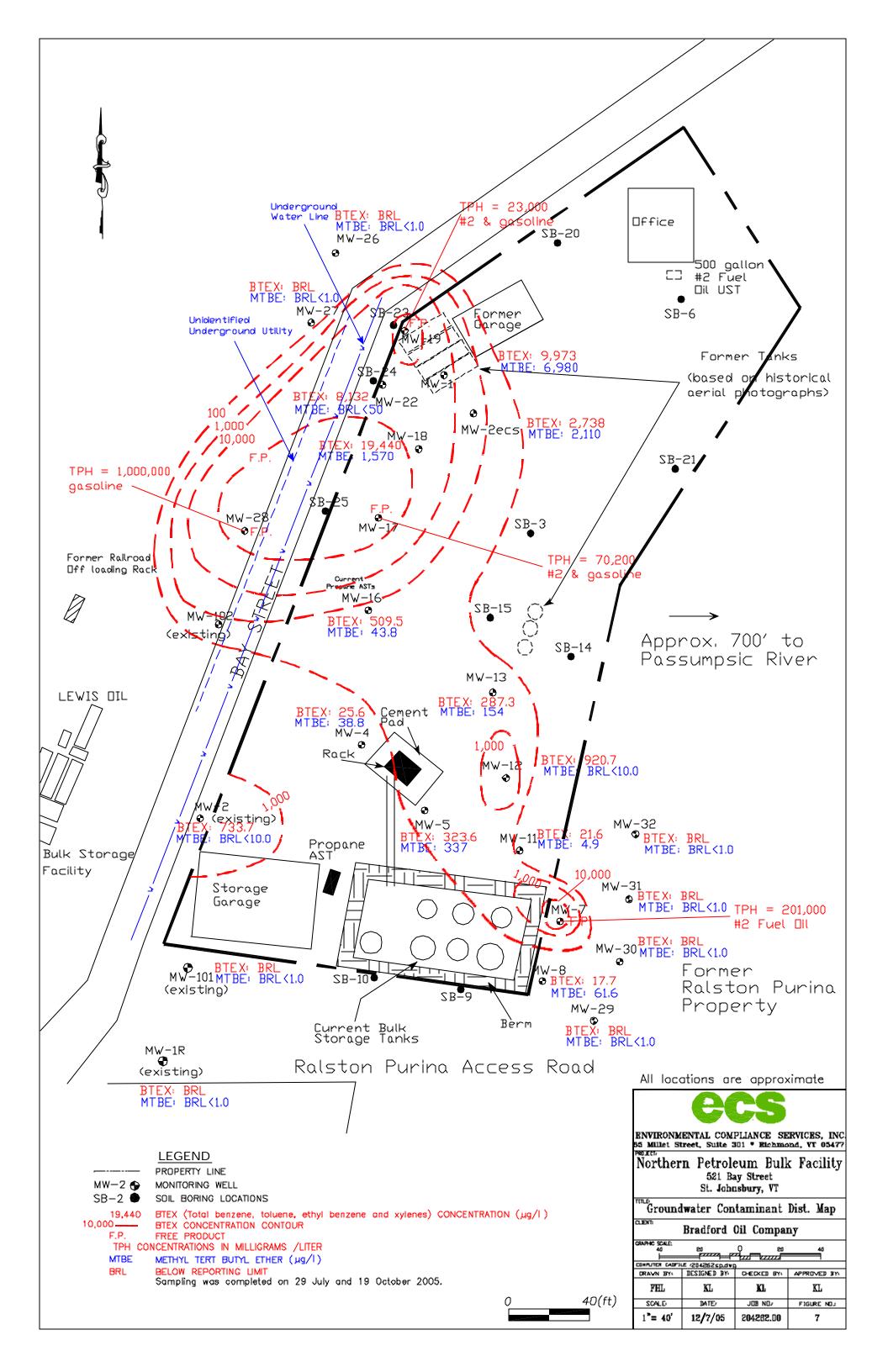












# TABLE 1. SUMMARY OF HIGHEST PID READINGS

521 Bay Street St. Johnsbury, VT

SOIL BORING	<b>D</b> ATE	NEAR SURFACE	WATER	TABLE	Воттом ог
LOCATION	SAMPLED	(0 TO 3 FT. BGS)	Reading	Depth ft. bgs	BORING (8 TO 12 Ft. BGS)
MW-1	7/18/05	145	226	6	158.3
MW-2 ECS	7/18/05	3.8	202	6	225.8
SB-3	7/18/05	1.4	1.2	6	1.5
MW-4	7/18/05	10.2	23.8	5	
MW-5	7/18/05	18.2	97.8	8	19.5
SB-6	7/18/05	1.6	2.6	7.5	1.7
MW-7	7/18/05	24.8	32.9	6	29.8
MW-8	7/18/05	2.4	12.8	4	20.3
SB-9	7/18/05	1.5	2.1	4.5	2.0
SB-10	7/18/05	2.0	5.7	5.5	2.0
MW-11	7/18/05	1.9	131.6	6	127.6
MW-12	7/18/05	76.4	89.7	5	83
MW-13	7/18/05	20.5	166.8	5.5	65
SB-14	7/18/05	2.2	3.2	6	4.5 @ 11 ft.
SB-15	7/19/05	3.6	11	5	3.0
MW-16	7/19/05	33	53	5	7 @ 11.5 ft.
MW-17	7/19/05	321 @ 2 ft.	338	5	184
MW-18	7/19/05	585 @ 1 ft.		5	207
MW-19	7/19/05	23	278	5	472
SB-20	7/19/05	6.7	6.3	4	3.0
SB-21	7/19/05	3.0	3.2	5	
SB-22	7/19/05	13.0 @ 2 ft.	450	8	475 @ 11 ft.
SB-23	10/12/05	65.5	489	6	134
SB-24	10/12/05	0.5	307	6	346
SB-25	10/12/05	51	223	6	93
MW-26	10/12/05	0.1	0.1	5	0.1
MW-27	10/12/05	0.0	0.0	5	0.0
MW-28	10/12/05	23	3.3	4.5	113
MW-29	10/12/05	0.0	0.0	6	0.5
MW-30	10/12/05	0.0	27.5	5	25.2
MW-31	10/12/05	0.0	32.8	6	23.7
MW-32	10/12/05	0.0	3.6	6	32.5

Notes:

ppm – parts per million bgs – below ground surface

# Table 2. Groundwater Elevations

521 Bay Street St. Johnsbury, VT

Monitoring Date: 29 July 2005 & 19 October 2005

Well I.D.	Top of Casing Elevation	Casing Depth to Depth to Product V		Product Thickness	Corrected Depth to Water	Water Table Elevation
MW-1	100.00		5.71			94.29
MW-1R (existing)			5.72			
MW-2 (existing)	100.14		5.85			94.29
MW-2ECS	100.16		5.94			94.22
MW-4	99.15		5.25			93.90
MW-5	98.95		5.11			93.84
MW-7	100.50	6.45	7.00	0.55	7.44	93.06
MW-8	100.67		6.60			94.07
MW-11	98.75		3.75			95.00
MW-12	98.65		5.06			93.59
MW-13	98.98		5.13			93.85
MW-16	99.56		5.57			93.99
MW-17	99.83		5.80			94.03
MW-18*	99.96		5.73			94.23
MW-19*	100.05		5.70			94.35
MW-22	99.95		5.71			94.24
MW-26	102.76		6.89			95.87
MW-27	102.90		7.03			95.87
MW-28	102.09	6.50	6.77	0.27	6.99	95.10
MW-29	99.63		4.14			95.49
MW-30	100.01		4.37			95.64
MW-31	99.95		4.13			95.82
MW-32	99.75		3.89			95.86
MW-101 (existing)			6.07			

#### Notes:

Corrected Depth to Water: (DTP - DTW)\*0.8 + DTW, where 0.8 is estimated specific gravity of #2 fuel oil DTW = depth to water, and DTP = depth to product.

All wells except MW-26 through MW-32 were gauged on 29 July 2005. MW-26 - MW-32 were gauged on 19 October 2005.

<sup>\*</sup> Approximately 0.4 inches of product was observed in bailer during sampling in MW-17 and MW-19. All values reported in feet relative to a datum of 100.00 ft.

# Table 3. Summary of Soil Analytical Results

521 Bay Street St. Johnsbury, VT

Sample Identification	PRG	MW-1		MW-2 ECS		MW	MW-5		MW-12		MW-13		MW-17		MW-18	
	PKG	SB-1-2	SB-1-8	SB-2-3	SB-2-11	SB-5-4.5	SB-5-8	SB-12-4	SB-12-11	SB-13-4	SB-13-7	SB-17-2.5	SB-17-5	SB-18-4	SB-18-6	
Sample Depth		2.0	8.0	3.0	11.0	4.5	8.0	4.0	11.0	4.0	7.0	2.5	5.0	4.0	6.0	
Date Collected		7/1	8/05	7/18	3/05	7/18	/05	7/13	3/05	7/18	8/05	7/1	9/05	7/19	9/05	
VOLATILE ORGANIC COMPOUNDS by EPA Method 8260B (μg/kg)																
Benzene	1,400	BRL<1,160	2,100	4,720	BRL<209	15.8	BRL<202	BRL<180	BRL<140	BRL<157	BRL<139	2,250	21,600	BRL<5610	6,080	
Ethylbenzene	400,000	8,800	14,000	6,740	BRL<209	7.0	BRL<202	BRL<180	140	495	BRL<139	4,250	127,000	79,100	13,600	
Toluene	520,000	BRL<1,160	1,510	2,730	BRL<209	8.1	BRL<202	BRL<180	BLR<140	281	BRL<139	4,380	129,000	123,000	24,400	
Total Xylenes	420,000	54,030	65,260	73,500	524	55.0	1,230	BRL<360	722	2,581	BRL<279	29,780	652,000	754,000	91,800	
BTEX		62,830	82,870	87,690	524	85.9	1,230		866	3,357		40,660	929,600	956,100	135,880	
Naphthalene	190,000	23,800	8,070	14,700	259	22.9	1,080	BRL<180	1,160	1,300	BRL<139	11,900	87,500	118,000	8,040	
1,2,4-Trimethylbenzene	170,000	82,800	39,100	57,600	280	64.5	2,010	BRL<180	1,740	3,880	325	38,200	478,000	684,000	47,200	
1,3,5-Trimethylbenzene	70,000	26,100	12,300	20,900	BRL<209	17.2	790	BRL<180	695	1,540	149	11,800	157,000	217,000	15,700	
Methyl tert-butyl ether	70,000	BRL<1,160	12,800	BRL<1,370	944	9.1	BRL<202	BRL<180	BRL<140	BRL<157	185	BRL<1170	BRL<2490	BRL<5610	3,780	
Total VOCs		195,530	155,140	180,890	2,007	200	5,110	BRL	4,461	10,077	659	102,560	1,652,100	1,975,100	210,600	
			EXTRA	CTABLE PETI	ROLEUM HYI	DROCARBONS	S - DIESEL R	ANGE ORGAN	NICS by EPA I	Method 8015B	(mg/kg)					
Fuel Oil #2		6,110					369	3,620		1,400	180					
Unidentified (calculated as)			1,750 (#2 fuel oil & other oil)	1,920 (#2 fuel oil & other oil)	<b>55.9</b> (#2 fuel oil)	190 (#2 fuel oil)			104 (#2 fuel oil)	-		<b>4,630</b> (#2 fuel oil)	<b>17,700</b> (#2 fuel oil)	14,300 (#2 fuel oil)	<b>725</b> (#2 fuel oil)	
					FRAC	TIONAL ORG	ANIC CARBO	ON (FOC) (per	cent)							
FOC			0.0056		0.0056				0.0054			0.0122	0.0082	0.0151		

#### Notes:

-- - not analyzed or not applicable

 $\mu g/kg - micrograms\ per\ kilogram$ 

mg/kg - milligrams per kilogram

BRL - Below reportable detection limit

Sample depth reported in approximate feet below ground surface.

PRG - EPA Preliminary Remediation Goal for Industrial Settings. Concentrations above PRGs are shaded.

Other Oil - includes lubricating and cutting oil, and silicon oil

Unidentified - unidentified petroleum product is detected and quantified using a calibration that most closely approximates the distribution of compounds in the sample.

# Table 3. Summary of Soil Analytical Results

521 Bay Street St. Johnsbury, VT

		QA	/QC SAMPI	LES			
Sample Identification	PRG	SB-2-3	SB-2-3D	% difference	SB-5-8	SB-5-8D	% difference
Sample Depth		3	3		8	8	
Date Collected		7/13	8/05		7/1	8/05	
	VOLATILE	ORGANIC CO	OMPOUNDS b	y EPA Method 8	260B (μg/L)		
Benzene	1,400	4,720	4,370	8	BRL<202	BRL<280	
Ethylbenzene	400,000	6,740	4,740	35	BRL<202	BRL<280	
Toluene	520,000	2,730	BRL<3,730		BRL<202	BRL<280	
Total Xylene	420,000	73,500	70,000	5	1,230	2,250	59
BTEX		87,690	79,110	10	1,230	2,250	59
Naphthalene	190,000	14,700	14,300	3	1,080	1,590	38
1,2,4 Trimethylbenzene	170,000	57,600	49,500	15	2,010	3,560	56
1,3,5 Trimethylbenzene	70,000	20,900	18,300	13	790	1,420	57
MTBE	70,000	BRL<1,370	BRL<3,730		BRL<202	BRL<280	
Total VOCs		180,890	161,210		5,110	8,820	
	EXTRACTA	ABLE PETROI	LEUM HYDRO	OCARBONS - D	RO (mg/kg)		
Fuel Oil #2			3,760		369	864	80
Unidentified (calculated as)		1,920 (#2 fuel oil & other oil)		65			

#### Notes:

-- - not analyzed or not applicable

 $\mu g/kg - micrograms \ per \ kilogram$ 

mg/kg - milligrams per kilogram

BRL - Below reportable detection limit

Sample depth reported in approximate feet below ground surface.

PRG - EPA Preliminary Remediation Goal for Industrial Settings. Concentrations above PRGs are shaded.

Other Oil - includes lubricating and cutting oil, and silicon oil

Unidentified - unidentified petroleum product is detected and quantified using a calibration that most closely approximates the distribution of compounds in the sample.

# Table 4. Summary of Groundwater Analytical Results

521 Bay Street St. Johnsbury, VT

					ON-SITE	MONITORI	NG WELLS						
Sample Identification	VGES	MW-1	MW-2 ECS	MW-4	MW-5	MW-11	MW-12	MW-13	MW-16	MW-17	MW-18	MW-19	MW-22
Sampling Date		7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05	7/29/05
VOLATILE ORGANIC COMPOUBRLS by EPA Method 8260B (µg/L)													
Benzene	5	1,060	827	4.9	157	18.2	BRL<10.0	60.2	453		2,770		616
Ethylbenzene	700	1,560	398	2.0	21.6	1.3	162	29.0	11.1		1,310		1,050
Toluene	1,000	433	93	4.6	BRL<5.0	BRL<1.0	BRL<10.0	BRL<5.0	5.8		6,290		1,450
Total Xylenes	10,000	6,920	1,420	14.1	145	2.1	758.7	198.1	39.6		9,070		5,016
BTEX		9,973	2,738	25.6	323.6	21.6	920.7	287.3	509.5		19,440		8,132
Naphthalene	20	632	304	1.3	93.7	BRL<1.0	438	103	224		824		352
1,2,4-Timethylbenzene	5	1,830	416	7.5	159	50.6	760	313	177		3,230		1,310
1,3,5-Timethylbenzene	4	507	136	2.5	55.6	3.4	252	135	64.6		905		363
Methyl tert-butyl ether	40	6,980	2,110	38.8	337	4.9	BRL<10.0	154	43.8		1,570		BRL<50
			EXT	RACTABLE P	ETROLEUM I	HYDROCARB	ONS by EPA M	Tethod 8015B (1	mg/L)				
Fuel Oil #2						6.7							
Unidentified (calculated as)		<b>6.8</b> (#2 fuel oil)	13.2 (#2 fuel oil)	0.5 (other oil)	<b>5.3</b> (#2 fuel oil)		<b>5.8</b> (#2 fuel oil)	3.4 (#2 fuel oil)	2.6 (#2 fuel oil)		15.3 (#2 fuel oil)		3.5 (#2 fuel oil)
			EXT	RACTABLE F	PETROLEUM	HYDROCARB	ONS by EPA N	Method 8100 (m	g/kg)				
Fuel Oil #2													
Unidentified										70,200 (#2 fuel oil & gasoline)		23,200 (#2 fuel oil & gasoline)	

#### Notes:

-- - not analyzed or not applicable

 $\mu g/kg - micrograms\ per\ kilogram$ 

 $\mu g/L$  - micrograms per liter

BRL - Below reportable detection limit

mg/L - milligrams per liter

Other Oil - includes lubricating and cutting oil, and silicon oil

Unidentified - unidentified petroleum product is detected and quantified using a calibration that most closely approximates the distribution of compounds in the sample.

VGES - Vermont Groundwater Enforcement Standards (exceedences are shaded)

# Table 4. Summary of Groundwater Analytical Results

521 Bay Street St. Johnsbury, VT

OFF-SITE MONITORING WELLS													
Sample Identification	VGES	MW-7	MW-8	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	MW-2 (existing well)	MW-101 (existing well)	MW-1R (existing well)
Sampling Date		7/29/05	7/29/05	10/19/05	10/19/05	10/19/05	10/19/05	10/19/05	10/19/05	10/19/05	7/29/05	7/29/05	7/29/05
VOLATILE ORGANIC COMPOUBRLS by EPA Method 8260B (μg/L)													
Benzene	5		17.7	BRL<1.0	BRL<1.0		BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	150	BRL<1.0	BRL<1.0
Ethylbenzene	700		BRL<1.0	BRL<1.0	BRL<1.0		BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	121	BRL<1.0	BRL<1.0
Toluene	1,000		BRL<1.0	BRL<1.0	BRL<1.0		BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	25.7	BRL<1.0	BRL<1.0
Total Xylene	10,000		BRL<2.0	BRL<2.0	BRL<2.0		BRL<2.0	BRL<2.0	BRL<2.0	BRL<2.0	437	BRL<2.0	BRL<2.0
BTEX			17.7	BRL	BRL		BRL	BRL	BRL	BRL	733.7	BRL	BRL
Naphthalene	20		BRL<1.0	BRL<5.0	BRL<5.0		BRL<5.0	2.2	BRL<5.0	BRL<5.0	50.6	BRL<1.0	BRL<1.0
1,2,4 Trimethylbenzene	5		BRL<1.0	BRL<1.0	BRL<1.0		BRL<1.0	2.0	BRL<1.0	BRL<1.0	126	BRL<1.0	BRL<1.0
1,3,5 Trimethylbenzene	4		BRL<1.0	BRL<1.0	BRL<1.0		BRL<1.0	1.1	BRL<1.0	BRL<1.0	41.3	BRL<1.0	BRL<1.0
MTBE	40		61.6	BRL<1.0	BRL<1.0		BRL<1.0	BRL<1.0	BRL<1.0	BRL<1.0	BRL<10.0	BRL<1.0	BRL<1.0
			EXT	RACTABLE P	ETROLEUM H	IYDROCARBO	NS by EPA Me	ethod 8015B (mg	g/L)				
Fuel Oil #2				BRL<0.2	BRL<0.2		BRL<0.2			BRL<0.2			
Unidentified (calculated as)			5.4 (#2 fuel oil)					<b>4.7</b> (#2 fuel oil)	0.7 (other oil)		1.7 (#2 fuel oil)	0.4 (other oil)	0.5 (other oil)
		EXTR	RACTABLE PE	TROLEUM H	YDROCARBO	NS - DIESEL R	ANGE ORGAN	NICS by EPA M	lethod 8100 (m	g/kg)			
Fuel Oil #2		201,000											
Unidentified (calculated as)						1,000,000 (gasoline)							

#### Notes:

-- - not analyzed or not applicable

 $\mu g/kg - micrograms\ per\ kilogram$ 

 $\mu g/L$  - micrograms per liter

BRL - Below reportable detection limit

mg/L - milligrams per liter

Other Oil - includes lubricating and cutting oil, and silicon oil

Unidentified - unidentified petroleum product is detected and quantified using a calibration that most closely approximates the distribution of compounds in the sample.

VGES - Vermont Groundwater Enforcement Standards (exceedences are shaded)

### Table 4. Summary of Groundwater Analytical Results

521 Bay Street St. Johnsbury, VT

				QA/QC SAMP	LES				
Sample Identification	VGES	Trip	Duplicate	Original Sample	% difference	Trip	Duplicate	Original Sample (MW-30)	% difference
Sampling Date		7/29/05	7/29/05	7/29/05		10/19/05	10/19/05	10/19/05	
			VOLATILE	ORGANIC COM	POUBRLS (μg/I	.)			
Benzene	5	BRL<1.0	572	453	23	BRL<1.0	BRL<1.0	BRL<1.0	
Ethylbenzene	700	BRL<1.0	11.8	11.1	6	BRL<1.0	BRL<1.0	BRL<1.0	
Toluene	1,000	BRL<1.0	BRL<10.0	5.8	1	BRL<1.0	BRL<1.0	BRL<1.0	
Total Xylene	10,000	BRL<2.0	43.3	39.6	9	BRL<2.0	BRL<2.0	BRL<2.0	
BTEX			627.1	509.5	21		BRL	BRL	
Naphthalene	20	BRL<1.0	163	224	32	BRL<1.0	1.8	2.2	20
1,2,4 Trimethylbenzene	5	BRL<1.0	175	177	1	BRL<1.0	2.0	2.0	0
1,3,5 Trimethylbenzene	4	BRL<1.0	67.5	64.6	4	BRL<1.0	1.1	1.1	0
MTBE	40	BRL<1.0	44.1	43.8	1	BRL<1.0	BRL<1.0	BRL<1.0	
		EXTRACTA	BLE PETROLI	EUM HYDROCA	RBONS (mg/kg)				
Fuel Oil #2									
Unidentified			2.1 (#2 fuel oil)	2.6 (#2 fuel oil)	21		<b>4.9</b> (#2 fuel oil)	<b>4.7</b> (#2 fuel oil)	4
		EXTRACTA	BLE PETROLI	EUM HYDROCA	RBONS (mg/kg)				
Fuel Oil #2									
Unidentified									

#### Notes:

-- - not analyzed or not applicable

μg/kg - micrograms per kilogram

 $\mu g/L$  - micrograms per liter

BRL - Below reportable detection limit

mg/L - milligrams per liter

Other Oil - includes lubricating and cutting oil, and silicon oil

Unidentified - unidentified petroleum product is detected and quantified using a calibration that most closely approximates the distribution of compounds in the sample.

VGES - Vermont Groundwater Enforcement Standards (exceedences are shaded)

# APPENDIX A

SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

	1		1				Bo	ORING	3 / W	ELL ID	ENTIFI	CATION:	<b>SB-1/MW-1</b>
<u> </u>	E									SITE NAME:	Northern	Petroleum-52	21 Bay Street
V			1						SITI	E LOCATION:			nsbury, Vermont
								J <sub>A</sub>		ATION DATE:	18 July 20		- 57
63 MILLE					(802) 43			111		OB NUMBER:	08-204262		
RICHMON				7 (802)	434-607		400		<i>J</i> (				1.15 6
	ELL DEP		12'	nu nucl.		ING DEPTH:	12'	,			RESENTATIVE:		rd, Matt Guerino
SCREEN				RILLING):	6'	Depart	2.1	2.6.1			BORING TYPE	ECS Agawa	
	TYPE/Si		1-inc		. 1. 1. 40	DEPTH:	<i>Z</i> -1	2 ft bgs			NG METHOD:	Geoprobe d	
	DIAMET			) slot sch	eaule 40	DEPTH:	0.3	) (4 l			NG METHOD: TE POINT (RP)	Disposable	Liner
	TYPE/S		1-inc	e <u>n</u> dule 40 P	WC	DEPIH;	0-2	t bgs			TE POINT (RP) ATION OF RP:	Grade Not measur	n d
KISEK	REMAR		Sche	aule 40 F	VC					ELEVA	ITION OF KI.	Not measur	eu
	KEMAK	IAD.										T	
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	S		PLE DESC AND NO		TION	PID (PPM)	WELL PROFILE	LEGEND
0		0	)-4		3.0				mediu	n sand with	145		Concrete
1						some gra	avel,	dry					$\boxtimes$
												<b>∭=</b> ₩	Native Material
3													
					2.0	0.00.0		1.0		1 201	226		D
4		4	<b>1-8</b>		3.0	0-3.0' Gray below bo			and, oc	lor, wet 2.0 '	226		Bentonite
5			$\blacksquare$				Č						
6													Filter Sand
7													55.51
8		8-	-12		4.0	0-4.0' Sam	ne as a	above.			158.3		Riser
9													
10													Screen
11													
12													Water
13													Level
14													
15													
16												-	
17													
18													
19													
20												-	
21													
22													
23													
PROPOF AND SOME LITTLE TRACE	10-20	% % %	<2 2-4 4-8 8-15 15-3 >30	0	JNT (COHES VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF HARD			BLO 0-4 4-10 10-30 30-50 >50	) ] ]	NT (GRANULAR : /ERY LOOSE LOOSE MEDIUM DENSE DENSE /ERY DENSE	SOILS)	Notes:	

							BO	RING / V	VELL ID	ENTI	FIC	CATION:	SB-2/MW-2
4	3								SITE NAME:			Petroleum-52	
		7						SIT	E LOCATION:	521 Bay	y St	reet, St. John	nsbury, Vermont
63 MILLE	ET STREE	-T SI	LUTE 3	201	(802) 43	24 4500		INSTALL	ATION DATE:	18 July	200	)5	
RICHMON					(802) 43 434-607			J	OB NUMBER:	08-2042	262.	00	
W	ELL DEPT	ТН:	12'	,	BORI	ING DEPTH:	12'			RESENTATIV			rd, Matt Guerino
				DRILLING):	6'					NG COMPAN		ECS Agawa	
	DIAMETE		1-inc			<i>DEPTH:</i>	2-12	ft bgs		BORING TY		Geoprobe d	_
	N TYPE/SIZ R DIAMETE		0.010 1-inc	0 slot sche	dule 40	DEPTH:	0-2 ft	t has		NG METHO CE POINT (I		Disposable l Grade	Liner
	R TYPE/SIZ			edule 40 P	VC	DEFIH.	0-2 10	ugs		ATION OF R		Not measure	ed
	REMARK		Sene	uuic 10 I	<u>, , , , , , , , , , , , , , , , , , , </u>							110t measur	cu
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>D</b> ЕРТН (FT)	BLOWS /6"	RECOVERY (FEET)	\$		LE DESCRIP IND NOTES	TION	PI[ (PPI		WELL PROFILE	LEGEND
0		0	<b>)-4</b>		3.0			wn, fine sand		3.8	}		Concrete
1					+ +	gravel a	nd little	silt-trace of co	arse sand, dr	у.			$\boxtimes$
2					+							<b></b> ₩ <b>=</b> ₩	Native Material
3		-		<del>                                     </del>	+							<b>⋙≡</b> ₩	
		4	-8	<del>                                     </del>	3.0	0-3 0' Blac	ck staine	ed, silt with or	ganies wet 2	.0' 202	=		B <u>ento</u> nite
4	GD2	<u> </u>			3.0	below be	oring, ar	nd sampled 1.5			<u></u>	<b>***</b>	
5	SB2~ 5'		<b>T</b>			groundw	vater tab	ole.			Ì	▓█▓	
6											ŀ		Filter Sand
7											ļ		E. 2.1
8		8-	-12		3.0	0-3.0' Sam	ne as abo	ove, sheen thro	oughout.	225	.8		Riser
9					+ +								
10					+ +								Screen
11	SB2~				<u> </u>								
12												Million en en est est est	Water Level
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
PROPOF AND SOME LITTLI TRACI	E 10-20%	6 6 6	<2 2-4 4-8 8-15 15-3	V S M 5 S 30 V	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF	IFF		4 10 -30 -50	JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)		Notes:	

,	1						BO	ORIN	G/V	VELL ID	ENTIFIC	CATION:	SB-3
	E,	3								SITE NAME:	Northern P	etroleum-52	1 Bay Street
/			1						SIT	E LOCATION:	521 Bay St	reet, St. John	sbury, Vermont
								I	NSTALL	ATION DATE:	18 July 200	)5	
63 MILLE RICHMON					(802) 43 434-607	34-4500 6 - fay			J	OB NUMBER:	08-204262.		
	ELL DEF		00+1	7 (002)		ING DEPTH:	12'			ECS REA	PRESENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WATI	ER (DU	RING L	ORILLING):	6'		1			DRILL	ING COMPANY:	ECS Agaw	
SCREEN						<i>D</i> ЕРТН:					BORING TYPE	Geoprobe o	direct-push
	TYPE/S.			-							LING METHOD:	Disposable	Liner
	DIAMET TYPE/S					<i>D</i> ЕРТН:					ICE POINT (RP)	:	
KISER	REMAR									ELE	VATION OF RP:		
DEPTH (IN FEET)	SAMPLE ID		<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	Ş	_	PLE DES		TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-	-4		3.0				e sand	with some sil	t, 1.4		Concrete
1						dry, stair	ned 2.	5 bgs.					$\boxtimes$
2													Native Material
3													
4		4-	-8		3.0	0-3.0' Yell					1.2		Bentonite
5			<b>T</b>							boring, staining of		No Well	
						water tal	_		,	swiiiig			Filter Şand
6													
7		8-	12		3.5	0-2.5' sam	ne as a	hove			1.5		Riser
8					3.3	2.5-3.0' Gr 3.0-3.5' Gr	ray, fi	ne sand.	d and a	roval			
10						3.0-3.3 G	ray, co	Jaise sair	u anu g	raver.			Screen
11													
12												<u> </u> 	<b>▼</b> Water
13													Level
14					1								
15					+								
16												†	
17													
18						•							
19					1								
20													
21													
22													
23													
PROPOR AND SOME LITTLE TRACE	10-20	% % !%	<2 2-4 4-8 8-15 15-3 >30	\ S 0 \	JNT (COHE: /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF HARD	FF		BI 0-4 4-10 10-30 30-50 >50		UNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

						BORIN	IG / W	VELL ID	ENTIFIC	CATION:	SB-4/MW-4
4	398							SITE NAME:		Petroleum-52	
							SITI	E LOCATION:	521 Bay St	treet, St. John	nsbury, Vermont
63 MILLE	CT STDEE	т Силт	201	(802) 43	24.4500		INSTALL	ATION DATE:	18 July 20	05	
RICHMON				434-607			Jo	OB NUMBER:	08-204262	.00	
$W_{i}$	ELL DEPT	TH: 12°	) (		ING DEPTH:	12'			RESENTATIVE:	Kim Lockar	rd, Matt Guerino
			G DRILLING):	5'					IG COMPANY:	ECS Agawa	
	DIAMETE		nch		<b>ДЕРТН:</b>	2-12 ft bgs	S		BORING TYPE	Geoprobe d	
	N TYPE/SIZ R DIAMETE	• 0.0	10 slot sche	dule 40		0.261			NG METHOD: CE POINT (RP).	Disposable 1	Liner
	R DIAMETE R TYPE/SIZ		nch hedule 40 P	VC	<i>D</i> ЕРТН:	0-2 ft bgs			ATION OF RP:	Grade Not measur	-ed
TUSER	REMARK	70 0	icauic 40 I	<u> </u>				EEE/1	THOW OF THE.	110t IIIcasui	cu
DEPTH (IN FEET)	SAMPLE ID	SAMPLE DEPTH (FT)	BLOWS	RECOVERY (FEET)	\$	SAMPLE DE AND N		TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-4		2.0		ellow-brown, f					Concrete
1		<u> </u>	1	+ +		Black staining, d silt, dry.	,, weather	red soils, fine	;		$\boxtimes$
2			+	+		, , .					Native Material
3			+	+						▓█▓	
		4-8		2.0	0-2" of dry	v cement			23.8	▓█▓	B <u>ento</u> nite
4		<b>T</b>		2.0	2'-2'Gray,	, fine sand and	d very litt	tle silt, odor,	23.0		
5		<u> </u>			wet 5' b	gs.					
6											Filter Sand
7					ľ						
8		8-12		2.0	0-2.0' Sam	ne as above.					Riser
9											
10			_	+							Screen
11			+								
12			_	+						*** <del>****</del> ****	Water
13			-								Level
14											
15											
16			+								
17					ļ						
18					,						
19											
20											
21											
22					ľ						
23					}						
PROPOF AND SOME LITTLE TRACE	E 10-20%	5	2 \\ -4 S -8 M -15 S 5-30 \\	UNT (COHES VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF	IFF	0-4 4-10 10-30 30-50 >50	\ 1 1	INT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

							BOR	ING / W	VELL ID	ENTIFI	CATION:	SB-5/MW-5
4	3,00		7						SITE NAME:		Petroleum-52	
								SITI	E LOCATION:	521 Bay S	treet, St. John	nsbury, Vermont
63 MILLE	ET STDE	-T Q1	UTE 3	01	(802) 43	24 4500		INSTALL	ATION DATE:	18 July 20	005	
RICHMON					434-607			Jo	OB NUMBER:	08-204262	2.00	
W	ELL DEPT	TH: ]	12'		BORE	ING DEPTH:	12'			RESENTATIVE:		rd, Matt Guerino
				PRILLING):	8'		T			NG COMPANY:	ECS Agawa	
	DIAMETE		1-inc		1 1 40	DEPTH:	2-12 ft	bgs		BORING TYPE		•
	N TYPE/SIZ R DIAMETE		0.010 1-inc	) slot sche	dule 40	DEPTH:	0-2 ft k	h cc		NG METHOD: CE POINT (RP)	Disposable Grade	Liner
	R TYPE/SIZ			dule 40 P	VC	DEFIH.	0-2111	Jgs –		ATION OF RP:		·ed
111,021	REMARK		Jene	uuic 40 I	<del>, , , , , , , , , , , , , , , , , , , </del>						110t incasur	- Cu
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>D</b> ЕРТН (FT)	BLOWS /6"	RECOVERY (FEET)	S	_	: DESCRIP D NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-	4		3.0			t, fine sand w		18.2		Concrete
1						black sta	ilning nas	s slight odor,	ary.			
2					+							Native Material
3					+ +							
4		4-	-8		3.0	0-3.0' Gra	v to black	. fine sand w	ith silt, odor,	97.8	₩₩₩	B <u>ento</u> nite
5								er level 8' bg				
6					-							Filter Sand
7			<b>T</b>		-							
8	SB5~	8-1			2	0-1.5' Dar	k brown,	fine sand wit	h some	25		Riser
9	8'				+	cobbles, so	ome organ					
10					+ +	1.5 2.0	nay, cour	)C 34114 4114 2	,14 v C1.			Screen
11					+							
12					+							▼ Water
13					+							Level
14					+							
15												
16											-	
17					1							
18					1							
19												
20											1	
21												
22												
23												
PROPOR AND SOME LITTLE TRACE	E 10-20%	6 6	<2 2-4 4-8 8-15 15-30	V S N S O V	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF	IFF	0-4 4-10 10-30 30-50 >50	) 0 ! 0 !	INT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

	1						BORING / W	VELL ID	ENTIFIC	ATION:	<b>SB-6</b>
	E.							SITE NAME:	Northern P	etroleum-52	1 Bay Street
/							SITI	E LOCATION:	521 Bay Str	eet, St. John	sbury, Vermont
					1000		INSTALL	ATION DATE:	18 July 200	5	
63 MILLE RICHMON					(802) 43 434-607		J	OB NUMBER:	08-204262.0		
	ELL DEF		1 0041	7 (002)		ING DEPTH:	12'	ECS RE	PRESENTATIVE:		rd, Matt Guerino
DEPTH	TO WATI	ER (DU	JRING D	RILLING):	7.5'			DRILL	ING COMPANY:	ECS Agaw	
SCREEN	DIAMET	TER:				<i>D</i> ЕРТН:			BORING TYPE	Geoprobe o	
SCREEN									LING METHOD:	Disposable	Liner
	DIAMET					<i>D</i> ЕРТН:			ICE POINT (RP):		
RISER	TYPE/S REMAR							ELE	VATION OF RP:		
	KEMAI	ins.			1						
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>DEPTH (FT)</b>	BLOWS /6"	RECOVERY (FEET)	S	SAMPLE DESCRIP AND NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0	)-4		2.5		wn, fine sand with 2"	layer of coars	se 1.6		Concrete
1							y, no odor. own to dark brown, fir	o and dra			$\boxtimes$
						2.0-2.3 BIG	own to dark brown, in	ie saiiu, ury.			Native Material
2											Tuttive Whiterian
3					2.0	0.1.52.1:1	.1 :4.1	C 11 C	2.6		
4		4	-8		3.0	sand, mo	nt brown with layers o	i yeiiow, iine	2.6		Bentonite
5							rown, fine sand, wet 3	.5' below		No Well	
6						boring.					Filter Sand
7			_								63.23
8		8-	-12		3.0	0-3.0' Bro	own, fine sand, wet.		1.7		Riser
9											
10											Screen
11											
12											Water Level
13											Level
14											
15											
16											
17						•					
18						•					
19						•					
20										•	
21											
22											
23											
PROPOR AND SOME LITTLE TRACE	E 10-20	% % !%	<2 2-4 4-8 8-15 15-3 >30	\ S M S	JNT (COHE /ERY SOFT SOFT MEDIUM ST STIFF /ERY STIFF HARD		0-4 4-10 10-30 30-50	JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

						BORIN	1G / W	VELL ID	ENTIFIC	CATION:	SB-7/MW-7
4				1				SITE NAME:		Petroleum-52	
							SITI	E LOCATION:	521 Bay St	reet, St. John	nsbury, Vermont
00.14		0	-004	(000)	04.4500		INSTALL	ATION DATE:	18 July 200	05	
63 MILLE	ET STREE ND, VERN			4 (802) [20-434 (2	34-4500 76 - FAX		Jo	OB NUMBER:	08-204262.	.00	
	ELL DEPT				RING DEPTH:	12'		ECS REP	RESENTATIVE:	Kim Lockar	rd, Matt Guerino
DEPTH	TO WATEI	R (DURIN	NG DRILLING)	: 6'				DRILLIN	NG COMPANY:	ECS Agawa	
	DIAMETE		-inch		<i>D</i> ЕРТН:	2-12 ft bg	zs		BORING TYPE	Geoprobe d	_
	TYPE/SIZ		.010 slot so	hedule 4		T			ING METHOD:	Disposable	Liner
	R DIAMETE R TYPE/SIZ		-inch chedule 40	DVC	<i>D</i> ЕРТН:	0-2 ft bgs	<u> </u>		CE POINT (RP): ATION OF RP:	Grade Not measur	
KISER	REMARK		cnedule 40	PVC				ELEVA	THON OF KF.	Not measur	ea
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	BLOV /6"			SAMPLE DI AND I	ESCRIP NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-4		1.5		wn, fine sand		anics, dry.	24.8		Concrete
1					Very stron	g petroleum	odor.				$\boxtimes$
					+					<b></b> ₩ <b>=</b> ₩	Native Material
2		<del> </del>	_		+					<b>⋘■</b> ₩	
3		4-8		1.5	0.15' Gra	·· with brown	- steining	grading coar	rse 32.9	<b>⋈≡</b> ₩	B <u>ento</u> nite
4		4-0		1.3		y with brown am sand, wet			Se 32.9		Bentonic
5		Y	<u>r</u>			-		-			
6					7						Filter Sand
7					7						MM
8		8-12	2	2.0			gravel to	F gravel with	n 29.8		Riser
9					some fine	sand.					
10					7						Screen
11					7						
12											▼ Water Level
13					1						Lever
14					1						
15					1						
16											
17					1						
18					1						
19					1						
20											
21					_						
22											
23					1						
PROPOR AND SOME LITTLE TRACE	E 10-20%	6 6 6	BLOW ( <2 2-4 4-8 8-15 15-30 >30	COUNT (COHE VERY SOF SOFT MEDIUM S' STIFF VERY STIF HARD	TIFF	0-4 4-10 10-30 30-50 >50	\ ! !	INT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	,	Notes:	

						BORIN	G / V	VELL ID	ENTIFIC	CATION:	SB-8/MW-8
4								SITE NAME:	Northern 1	Petroleum-52	1 Bay Street
V							SIT	E LOCATION:	521 Bay St	reet, St. John	sbury, Vermont
CO Muss	CEDER	- Cur	- 201	(000) 40	24.4500		INSTALL.	ATION DATE:	18 July 200	05	
63 MILLE RICHMON	I STREE ND, VERN			(802) 43 434-607			J	OB NUMBER:	08-204262.	.00	
	ELL DEPT				ING DEPTH:	12'		ECS REP	RESENTATIVE:	Kim Lockar	rd, Matt Guerino
		,	G DRILLING):	4'					IG COMPANY:	ECS Agawa	
	DIAMETE		inch		<i>D</i> ЕРТН:	2-12 ft bgs			BORING TYPE	Geoprobe d	-
	I TYPE/SIZ DIAMETE		010 slot sch	edule 40		0.26(1			NG METHOD:	Disposable	Liner
	TYPE/SIZ		inch hedule 40 1	PVC	<i>D</i> ЕРТН:	0-2 ft bgs			CE POINT (RP):	Grade Not measur	ad
TUSEN	REMARK		iledule 40 l	· VC				BLEVI	monor m.	110t illeasur	cu
DEPTH (IN FEET)	SAMPLE ID	SAMPLE Depth (et)	BLOWS /6"	RECOVERY (FEET)		Sample De AND N		TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-4		1.5	0-1.5' Brov	wn, fine sand	with org	anics, dry.	2.4		Concrete
1										STATE STATE	$\boxtimes$
2										<b>⋙≡</b> ⋙	Native Material
3			$oldsymbol{ol}}}}}}}}}}}}}}}}}}$							▓█▓	
		4-8	<u> </u>	3.0	0-3 0' Grav	y, grading fine	sand to	coarse sand		▓■▓	Bentonite
4				3.0		ne gravel, bori				▓█▓	
5									12.8	▓■▓	
6										<b>⋙≡</b> ₩	Filter Sand
7										<b>⋙■</b> ₩	E-2-1
8		8-12		3.0	0-3.0' Gray	y, coarse sand	with gr	avel.	20.3	▓█▓	Riser
9											
10										▓█▓	Screen
11										▓█▓	
12											Water Level
13											Ecver
14					<u> </u>						
15					ļ						
16											
17											
18											
19											
20											
21											
22											
23											
PROPOI AND SOME LITTLI TRAC	E 10-20%		52 2-4 1-8 3-15 15-30	VUNT (COHE VERY SOFT SOFT MEDIUM ST STIFF VERY STIFF HARD	IFF	0-4 4-10 10-30 30-50 >50		INT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

	A TOP OF THE PROPERTY OF		1				BOR	ING / W	ELL ID	ENTIFIC	ATION:	SB-9
	E,	3							SITE NAME:	Northern P	etroleum-52	1 Bay Street
			1					SIT	E LOCATION:	521 Bay Str	eet, St. John	sbury, Vermont
								INSTALL	ATION DATE:	18 July 200	5	
63 MILLE RICHMON					(802) 43 434-607	34-4500 6 - fay		Jo	OB NUMBER:	08-204262.0		
	ELL DEF		00+1	7 (002)		ING DEPTH:	12'		ECS RE	PRESENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WATI	ER (DU	RING L	ORILLING):	3.5'		ı		DRILL	ING COMPANY:	ECS Agaw	
SCREEN						<i>D</i> ЕРТН:				BORING TYPE	Geoprobe o	direct-push
	TYPE/S						1			LING METHOD:	Disposable	Liner
	DIAMET TYPE/S					<i>D</i> ЕРТН:				ICE POINT (RP):		
KISER	REMA								ELE	VATION OF RP:		
DEPTH (IN FEET)	SAMPLE ID		<b>D</b> ЕРТН (FT)	BLOWS /6"	RECOVERY (FEET)	Ş		DESCRIP D NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-	-4		3.0				on at 3' with	1.5		Concrete
1						little gra	vel and or	rganics.				$\boxtimes$
2			•									Native Material
3												
4		4-	-8		1.5			and grave		2.1		Bentonite
5						siit, satu	rated, old	petroleum o	dor.		No Well	
6												Filter Sand
7												
8		8-	12		3.0			coarse sand	and gravel,	2.0		Riser
9						saturated,	old petrol	eum odor.				
10						•						Screen
11												
12												Water Level
13						•						Level
14												
15						•						
16											•	
17						•						
18						•						
19												
20												
21						•						
22						•						
23												
PROPOI AND SOME LITTLI TRAC	E 10-20	1% 1% 1%	<2 2-4 4-8 8-15 15-3 >30	\ S N S	JNT (COHE: /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF HARD	FF	0-4 4-10 10-30 30-50 >50	) )	JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

,	The same of the sa						Bo	ORING	j / V	VELL ID	ENTIFI	CATION:	SB-10
4	E,	3								SITE NAME:		Petroleum-52	
/			1						SIT	E LOCATION:	521 Bay S	treet, St. John	nsbury, Vermont
								IN	STALL	ATION DATE:	18 July 20	005	
63 MILLE RICHMON					(802) 43 434-607				J	OB NUMBER:	08-204262		
	ELL DEF		00+1	7 (002)		ING DEPTH:	12'	,		ECS REA	PRESENTATIVE	Kim Lock	ard, Matt Guerino
DEPTH	TO WATI	ER (DU	RING L	RILLING):	5.5'					DRILL	ING COMPANY		
	DIAMET					<i>D</i> ЕРТН:					BORING TYPE		direct-push
	TYPE/S			-							LING METHOD	2 ispositor.	Liner
	DIAMET TYPE/S					<i>D</i> ЕРТН:					ICE POINT (RI		
KISER	REMAR									ELE	VATION OF RP		
DEPTH (IN FEET)	SAMPLE ID		<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	Ş	SAMI	PLE DES		TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-	-4		3.5	0-3.5' Bro	wn-gi	reen with b	lack s	taining,	2.0		Concrete
1						grading and trace			nd wi	th little grave	1		$\boxtimes$
						and trace	C OI S	iit, ui y.					Native Material
2													
3													
4		4	-8		3.0					organics, silt elow boring,	5.7		Bentonite
5			<b>T</b>			old odor		ic sand, we	t 1.5 t	ciow boring,		No Well	
6						·							Filter Sand
7													
8		8-	12		3.0					fine sand witl		1	Riser
9						trace of graboring 2" of			10 odc	r, at 2.0' belo	ow		
10						,							Screen
11													
12												<del> </del>	Water
13													Level
14						,							
15													
16												+	
17													
18													
19					1							+	
20					1								
22													
23			1	DI OW OO	INT (COURT	SIVE COURS	1	Di C	OW 00	INIT (CDANUU AD	COIL C)	Natar	
PROPOF AND SOME LITTLE TRACE	E 10-20	% % !%	<2 2-4 4-8 8-15 15-3 >30	\ S M S	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF HARD			0-4 4-10 10-30 30-50 >50		JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SUILS)	Notes:	

							BORING / W	ELL ID	ENTIFIC	CATION:	SB-11/MW-11
<b>A</b>								SITE NAME:		Petroleum-52	
V		7					SIT	E LOCATION:	521 Bay St	reet, St. Johr	sbury, Vermont
							INSTALL	ATION DATE:	18 July 20		•
63 MILLE RICHMON					(802) 43 434-607		J	OB NUMBER:	08-204262		
	ELL DEPT		12'	7 (002)		NG DEPTH:	12'	ECS REP	RESENTATIVE:		rd, Matt Guerino
<b>ДЕРТН</b>	TO WATER	R (DU	JRING D	PRILLING):	6'			DRILLIN	IG COMPANY:	ECS Agawa	
	DIAMETE		1-inc			<i>DEPTH:</i>	2-12 ft bgs		BORING TYPE	Geoprobe d	
	TYPE/SIZ			) slot sche	edule 40				NG METHOD:	Disposable	Liner
	DIAMETE TYPE/SIZ		1-inc	ch dule 40 P	NC	<i>D</i> ЕРТН:	0-2 ft bgs		CE POINT (RP):	Grade Not measur	ad
NISER	REMARK		Sche	dule 40 P	VC			ELEVA	ATION OF MI.	Not measur	eu
	1										
+ <del>(</del>	₽	Ц	J [E		, R≺						
DEPTH (IN FEET	SAMPLE ID	₫	ОЕРТН (FT)	BLOWS	RECOVERY (FEET)	9	SAMPLE DESCRIP	TION	PID	WELL	LEGEND
DEI N F	₹MF	4	:PT	/6"			AND NOTES		(PPM)	PROFILE	LEGLIND
=	ŝ		מׁ		2						
0		(	0-4		2.0		nt brown to brown wit	h bottom 3"	1.9		Concrete
1						black sta	nining, no odors, dry.				$\boxtimes$
2					+					<b>⋙■</b> ₩	Native Material
3										▓■▓	
			4-8		4.0	0-4 0' Grav	y, silt with organics, w	ret 2 0' helov	131.6		B <u>ento</u> nite
4		<u> </u>	<del>1-</del> 0		4.0		sheen on groundwater		131.0	▓█▓	
5		<u> </u>									Filter Cand
6			▼							▓█▓	Filter Sand
7			1.10		2.0	0.1.52.0			107.6		n:
8		8	3-12		3.0	1.5-3.0' Bı	ne as above. rown, coarse sand and	gravel, sheen	127.6	▓█▓	Riser
9						and oil glo	bules throughout.			▓█▓	<u> </u>
10										▓█▓	Screen
11										888 <del></del> 888	
12											▼ Water Level
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
PROPOF AND SOME LITTLE TRACE	10-20%	, 0	<2 2-4 4-8 8-15 15-30	\ S P	UNT (COHES VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF	ŕ	0-4 4-10 10-30 30-50	NT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	
			>30		HARD		100	VEIXT DEIXOE			

DEPTH SCREEN SCREEN RISER	ND, VERN ELL DEPT	MONT TH: CH: CR: CR: CR: CR: CR: CR: CR: CR: CR: CR	0547 12' RING D 1-inc 0.010 1-inc	7 (802) PRILLING): Ch  O slot sche	5.5' edule 40	6 - FAX NG DEPTH: DEPTH:	12	INSTA	SITE :	SITE NAME: LOCATION: TION DATE: B NUMBER: ECS REPE DRILLIN SAMPLI	Note 18 and 18 a	Thern F Bay St July 200 -204262.  VIATIVE: DMPANY: NG TYPE METHOD:	Petroleum-52 reet, St. John 95 00	lirect-push Liner
DEPTH (IN FEET)	SAMPLE ID		<b>ДЕРТН (FT)</b>	BLOWS /6"	RECOVERY (FEET)	ξ	Бам	PLE DESCR AND <b>N</b> OTE		ION		PID (PPM)	WELL PROFILE	LEGEND
0 1 2 3		0	1-4		3.0	0-3.0' Gra odor.	y, fin	e sand and silt	, las	t 6" strong		76.4		Concrete  Native Material
4 5 6 7	4-8				3.0		moi	plack staining, st, saturated be			lt,	89.5		Bentonite Filter Sand
8 9 10 11	8 8-12 0 SB12						own	e. , silt with orga e Sand with gra				83		Riser Screen
12 13 14 15	~11'												**************************************	<b>▼</b> Water Level
16 17 18														
19 20 21 22														
PROPOR AND SOME LITTLE TRACE	10-20%	) )	<2 2-4 4-8 8-15-30	\ S M S	JNT (COHES /ERY SOFT SOFT MEDIUM STI MEDIUM STI /ERY STIFF			BLOW 0 0-4 4-10 10-30 30-50 >50	VI LO M DI	IT (GRANULAR S ERY LOOSE DOSE EDIUM DENSE ENSE ERY DENSE	SOILS)	5)	Notes:	

							_						
							B	ORING / V					SB-13/MW-13
4	-								SITE NAME:	No	orthern F	Petroleum-52	1 Bay Street
		7						SIT	E LOCATION:	52	1 Bay St	reet, St. Johr	sbury, Vermont
CO N4	C		), u== 0	04	(000) 40	4.4500		INSTALL	ATION DATE:	18	July 200	)5	
63 MILLE RICHMON					(802) 43 434-607			Ĵ	OB NUMBER:		-204262.		
	ELL DEPT		12'	. (502)		NG DEPTH:	12	,	ECS REP				rd, Matt Guerino
				PRILLING):	5.5'						OMPANY:	ECS Agawa	
SCREEN	DIAMETE	ER:	1-inc	ch		<i>D</i> ЕРТН:	2-1	12 ft bgs		BORI	NG TYPE	Geoprobe d	irect-push
SCREEN	TYPE/SIZ	ZE:	0.010	) slot sche	edule 40	PVC			SAMPLI	ING M	<i>ЛЕТНО</i> D:	Disposable 1	Liner
	DIAMETE		1-inc			<i>D</i> ЕРТН:	0-2	2 ft bgs	REFERENC			Grade	
RISER	TYPE/SIZ		Sche	dule 40 P	VC				ELEVA	ATION	V OF RP:	Not measur	ed
	REMARI	KS:		T									
DEPTH (IN FEET)	SAMPLE ID	A IdMA S	ОЕРТН (FT)	BLOWS /6"	RECOVERY (FEET)	5	SAM	PLE DESCRIP AND NOTES	TION		PID (PPM)	WELL PROFILE	LEGEND
0		(	0-4		4.0	0-4.0' Bro	wn, f	ine sand with litt	le gravel, dry.		20.5		Concrete
1											-		$\boxtimes$
2												▓█▓	Native Material
3												▓█▓	
4	SB13		4-8		4.0	0-4 0' Grav	v-hro	own, fine sand wi	th organics		166.8	▓█▓	Bentonite
	~4'				7.0			.5' below boring			100.0		
5			<b>Y</b>			sheen.						▓█▓	
6	SB13 ~7'												Filter Sand
7	~7												MAM
8		8	3-12		4.0	0-3.0' Sam					65		Riser
9						3.0-4.0' Li strong odo		orown, coarse sar een.	d and gravel,				Ш
10													Screen
11												▓█▓	
12												000 <del>000</del> 000	Water Level
13													Level
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
PROPOR AND SOME LITTLE TRACE	10-20%	, , , ,	<2 2-4 4-8 8-15 15-3	0	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF	,		0-4	JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE		5)	Notes:	

	1						BORING / V	VELL ID	ENTIFIC	ATION:	<b>SB-14</b>
(			1					SITE NAME:	Northern P	etroleum-521	l Bay Street
			1				SIT	E LOCATION:	521 Bay Str	eet, St. John	sbury, Vermont
00.14				24	(000) 10	1 1500	INSTALL	ATION DATE:	18 July 200	5	
63 MILLE RICHMON					(802) 43 134-607		J	OB NUMBER:	08-204262.0		
	ELL DEF		0011	(002)		ING DEPTH:	12'	ECS RE	PRESENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WATI	ER (DU	JRING L	PRILLING):	6'		1	DRILL	ING COMPANY:	ECS Agawa	
SCREEN	DIAMET	TER:				<i>D</i> ЕРТН:			BORING TYPE	Geoprobe o	lirect-push
	TYPE/S								LING METHOD:	Disposable	Liner
	DIAMET					<i>D</i> ЕРТН:			ICE POINT (RP):		
RISER	TYPE/S REMAI							ELE	VATION OF RP:		
	KEMAI	KKS.									
+ ( <u> </u>	₽	ш	<del>[</del>		R ≺						
DEPTH (IN FEET)	SAMPLE ID	1 <u>P</u> L	ЕРТН (FT)	BLOWS	RECOVERY (FEET)	5	SAMPLE DESCRIP	TION	PID	WELL	LEGEND
DEI N F	Ä	ΑĀ	ΈPΤ	/6"	CFE		AND NOTES		(PPM)	PROFILE	LEGEND
)	Ś	0)	۵		R						
0		0	)-4		2.0	0-1.5' Ligl	ht brown, fine to medi	um sand, dry.	. 2.2		Concrete
							ght brown, fine sand, o				$\boxtimes$
1											Native Material
2											Native Material
3											
4		4	8		3.0	Light brow	vn, fine sand, wet 1.0'	below boring	3.2		Bentonite
5			▼							No Well	
6											Filter Sand
7											1711
8		8-	-12		3.5	0-1.5' Olivereading.	ve gray, fine sand with	some silt, PI	D 3.2	j	Riser
9						1.5-2.5' G	ray, fine sand with sor	ne silt, PID			
10						reading. 2.5-3.5' Li	ight brown, medium sa	and with some	e 4.5		Screen
11						gravel.					
12											Water Level
13											
14											
15											
16											
17											
18											
19											
20											
21					<del>                                     </del>						
22											
23				DI SIII	NT (22:	N. (E. C. 2:		INT (CT		N.	
PROPOI AND SOME LITTLI TRAC	E 10-20	% % !%	<2 2-4 4-8 8-15 15-3 >30	S M S 0 V	NT (COHES ERY SOFT OFT IEDIUM STI TIFF ERY STIFF ARD	,	0-4 4-10 10-30 30-50	UNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	(SOILS)	Notes:	

	1						BORING / W	ELL ID	ENTIFIC	ATION:	SB-15
4	E.							SITE NAME:	Northern P	etroleum-52	1 Bay Street
							Siti	E LOCATION:	521 Bay St	reet, St. John	sbury, Vermont
62 Muus	T CTDE	ET C	) UTE 2	01	(902) 43	4 4500	INSTALLA	TION DATE:	18 July 200	)5	
63 MILLE RICHMON					(802) 43 434-607		Jo	OB NUMBER:	08-204262.	00	
	ELL DEP			(552)		ING DEPTH:	12'	ECS REA	PRESENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WATE	ER (DU	IRING D	PRILLING):	5'			Drilli	ING COMPANY:	ECS Agaw	
Screen		-				<i>D</i> ЕРТН:			BORING TYPE	Geoprobe o	•
	TYPE/Si				<del></del>		1		LING METHOD:	Disposable	Liner
	DIAMET					<i>DEPTH:</i>			ICE POINT (RP)	:	
KISER	TYPE/SI REMAR							ELEV	VATION OF RP:		
	KEMAN	(AS.				1				1	l
DEPTH (IN FEET)	SAMPLEID	SAMPLE	<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	<u> </u>	SAMPLE DESCRIP AND NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0	)-4		3.0		y, medium sand with s	ome coarse to	o 3.6		Concrete
1					+ +	fine sand	d, dry. ight brown, same as ab	ONA			$\boxtimes$
						1.5-2.0 Oli	ive gray, same as abov	e			Native Material
2						2.0-3.0° G1	ray, same as above				
3						İ					
4	4-8				4.0	below bo			11	No Well	Bentonite
5						3.5-4.0° O	live gray, fine sand and	d silt.		No Well	
6						i					Filter Sand
7						ı					EAM
8		8-	-12		4.0		y, fine sand with some live gray, same as abo		3.0		Riser
9						3.0-3.5° G1	ray, fine sand with son ight brown, gravel with	ne medium si	lt.		
10							nd fine sand.	i some			Screen
11											
12						•					Water Level
13						ı.					
14						•					
15											
16						r					
17						i					
18						ľ					
19											
20						i					
21						i					
22						ľ					
23											
PROPOR AND SOME LITTLE TRACE	10-20	% % %	<2 2-4 4-8 8-15 15-30	0	UNT (COHES VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF HARD	FF	0-4 4-10 10-30 30-50	JNT (GRANULAR /ERY LOOSE LOOSE MEDIUM DENSE DENSE /ERY DENSE	SOILS)	Notes:	

	-						В	ORING / W				<b>SB-16/MW-16</b>
									SITE NAME:	Northern 1	Petroleum-52	1 Bay Street
		1						Siti	E LOCATION:	521 Bay St	reet, St. John	nsbury, Vermont
00.14				0.4	(000) 40	1.4500		INSTALL	ATION DATE:	18 July 20	05	
63 MILLE RICHMON					(802) 43 434-607			Jo	OB NUMBER:	08-204262	.00	
	ELL DEP		12'	1 (002)		NG DEPTH:	12	,	ECS REP	RESENTATIVE:		rd, Matt Guerino
				RILLING):	5'					IG COMPANY:	ECS Agawa	
SCREEN	DIAMET	ER.	1-inc	h		<i>D</i> ЕРТН:	2-	12 ft bgs		BORING TYPE	Geoprobe d	
SCREEN	TYPE/Si	IZE:	0.010	) slot sche	dule 40	PVC		3	Sampli	NG METHOD:	Disposable	•
	DIAMET		1-inc			<i>D</i> ЕРТН:	0-2	2 ft bgs		CE POINT (RP):	Grade	
RISER	TYPE/Si		Sche	dule 40 P	VC				ELEVA	ATION OF RP:	Not measur	ed
	REMAR	eKS:								•		
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	S	SAM	PLE DESCRIPT AND NOTES	ΓΙΟΝ	PID (PPM)	WELL PROFILE	LEGEND
0		0	-4		4.0			rse sand with some r	nedium sand,	5.3		Concrete
1							ht br	own, same as above				$\boxtimes$
2								aining, same as above ne sand with some n		g. 33	<b></b> ₩ <b>=</b> ₩	Native Material
2						dry.	ıy, III	ie sand with some ii	icuium sanu,	33	<b>⋙≡</b> ⋙	
3			0		2.0	0.1.02.0	۳.	1 - 1/1	1:		⋘⋿⋘	
4		4	-8 <b>_</b>		3.0	sand, dr		ne sand with some	meaium		<b>⋙≡</b> ⋙	Bentonite
5						1.0-3.0 Gra	ay, s	ame as above, we		53	⋘⋿⋙	
6						through	out, I	PID at water table			⋘≣⋘	Filter Sand
7												
8		8-	-12		4.0		y fin	e sand with some	medium sand	i, 45	<b>⋙■</b> ⋙	Riser
9								brown, fine sand v	vith some			
10						medium sa		brown, coarse san	d and gravel.		<b>⋙≡</b> ⋙	Screen
11								t 8' and 12'.		7	<b>⋙■</b> ⋙	
12											3000 <del></del> 3000	<b>▼</b> Water
13												Level
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
PROPOR AND SOME LITTLE TRACE	10-20	% % %	<2 2-4 4-8 8-15 15-30	\ { } }	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF HARD	ŕ		0-4 4-10 10-30 30-50	NT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)	Notes:	

						BORING	/ W	ELL ID	EN	TIFIC	CATION:	SB-17/MW-17
1								SITE NAME:				1 Bay Street
V.							Siti	E LOCATION:				ısbury, Vermont
						In	STALL	ATION DATE:		July 200		<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	ET STREET, S			(802) 43				OB NUMBER:		204262.		
	ND, VERMON'	105477	(802)	434-607	O - FAX NG DEPTH:	12'		ECS REPR				ud Matt Cuarina
	TO WATER (DE		LING) ·	5'	NG DEPTH.	12		DRILLIN			ECS Agawa	rd, Matt Guerino
	DIAMETER:	1-inch	LINO).	3	<i>D</i> ЕРТН:	2-12 ft bgs				NG TYPE	Geoprobe d	
	TYPE/SIZE:		ot sche	edule 40		2-12 It bgs		SAMPLII			Disposable 1	
	DIAMETER:	1-inch	ot sent	duic 40	DEPTH:	0-2 ft bgs		REFERENC			Grade	Linei
	TYPE/SIZE:	Schedu	le 40 P	VC		0 2 10 050				OF RP:	Not measur	ed
	REMARKS:											
DEРТН (IN FEET)	SAMPLE ID	SAMPLE DEPTH (FT)	BLO WS/6	RECOVERY (FEET)	S	SAMPLE DESC AND NO		TION		PID (PPM )	WELL PROFILE	LEGEND
0		0-4		3.0		brown, medium sa	and wi	th some coarse				Concrete
						odor throughout. ck staining, medius	m to fi	ne sand PID		0.5		$\boxtimes$
1	CD17 0.53				reading.	_	111 10 11	ne sand, 1 ib		9.5	XXXX XXXX	
2	SB17~2.5'				1.5-2.0' Cen	nent y, medium to fine	cand ]	DID reading		321	▓≡⋙	Native Material
3						e as above, PID re		11D Icaumg.		310	▓≡⋙	
4		4-8		3.0		e gray, fine sand				338	⋘⋿⋘	Bentonite
5	SB17~5.0'					een throughout, v	vet 1.	0' below			▓█	
					boring.						▓≡⋙	Filton Cond
6											⋘≣⋘	Filter Sand
7											<b>***</b>	
8		8-12		4.0		y, fine sandn and			ıg	184	<b>⋙■</b> ⋙	Riser
9					at 2.5' 3" in odor.	n length, Sheen t	hroug	shout, strong			<b>⋙■</b> ⋙	
_						ay, coarse sand	and g	ravel.			▓█▓	Screen
10											▓█▓	
11											<b></b> ₩	Water
12												Level
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
PROPOF AND SOME LITTLE TRACE	E 10-20%	<2 2-4 4-8 8-15 15-30 >30	\ 6 8 \	JNT (COHES /ERY SOFT SOFT MEDIUM STI STIFF /ERY STIFF HARD		0-4 4-10 10-30 30-50 >50	\   	NT (GRANULAR S VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOILS)		Notes:	

							/ -		_			
						В	<u>ORING / V</u>					<b>SB-18/MW-18</b>
4								SITE NAME:		Northern I	Petroleum-52	21 Bay Street
							SIT	TE LOCATION:	5	521 Bay St	reet, St. Johr	nsbury, Vermont
CO N4:: - =	0=====	2,		(000) 45	14.4500		INSTALI	ATION DATE:	1	18 July 200	)5	
	ET STREET, S ND, VERMON			(802) 43 434-607				OB NUMBER:	(	08-204262.	00	
	ELL DEPTH:	12'	(002)		ING DEPTH:	12	,	ECS REF	PRES	SENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WATER (DI	URING DRII	LING):	5'				DRILLI	ING	COMPANY:	ECS Agawa	
SCREEN	DIAMETER:	1-inch			<i>D</i> ЕРТН:	2-	12 ft bgs		ВС	ORING TYPE	Geoprobe d	irect-push
	N TYPE/SIZE:		lot sche	dule 40						G METHOD:	Disposable	Liner
	R DIAMETER:	1-inch			<i>D</i> ЕРТН:	0-2	2 ft bgs			POINT (RP):	Grade	
RISER	R TYPE/SIZE:		<u>ile 40 P</u>		1 '11'	10:	21 102	ELEV	VATI	ION OF RP:	Not measur	ed
	REMARKS:	Fresh st	taining a	iround d	drilling area	1 IO	by 10'.			1 1		Г
DEPTH (IN FEET)	SAMPLE ID	SAMPLE DEPTH (FT)	BLO WS/6	RECOVERY (FEET)	\$	SAM	IPLE DESCRIF AND NOTES	TION		PID (PPM)	WELL PROFILE	LEGEND
0		0-4		3.0			dium sand with so		nd,			Concrete
1				+			ling, strong odor the brown, same as abo		ing	585		$\boxtimes$
		<del>                                     </del>		-			rown, same as abo				<b>***</b>	Native Material
2											▓▆▓	Native iviatorial
3										543	<b>⋙≡</b> ⋙	
4	SB18~4.0'	4-8		3.0			ne sand with silt,				<b>₩≡</b> ₩	Bentonite
5				+ 1	through		n below water lev	el, strong ou	.01		▓▆	
6	SB18~6.0'			+	<b></b> 00	J 44 2.					<b>⋙■</b> ⋙	Filter Sand
_				$\perp$							<b>⋙■</b> ⋙	$\boxtimes$
7												
8		8-12		3.0	0-2.5' Gray		nd with some silt,	strong odor		207	▓▇▓	Riser
9							nedium sand with	some grave	1.			
10				+ +		-		Č			▓█▓	Screen
				+	}							
11		<b></b>		$\downarrow \longrightarrow$						1	<b>⋙≡</b> ₩	<b>▼</b> Water
12												▼ Water Level
13												
14												
15					j							
16												
17												
18				+								
19				+								
20												
21												
22												
23												
	RTIONS USED 33-50% 20-33%	<2 2-4	V	JNT (COHES ERY SOFT	SIVE SOILS)		BLOW CO 0-4 4-10	JNT (GRANULAR VERY LOOSE LOOSE	R SO	DILS)	Notes:	
LITTLE	E 10-20%	4-8 8-15 15-30	M S V	MEDIUM STII STIFF MERY STIFF			10-30 30-50 >50	MEDIUM DENSE DENSE VERY DENSE	E			

	The same						BORING / W	/ELL ID	ENTIFIC	ATIC	N·S	SB-19/MW-19
					-		DOMING / V	SITE NAME:				1 Bay Street
V							SIT	E LOCATION:				sbury, Vermont
								ATION DATE:	18 July 200		-	
63 MILLE					(802) 43			OB NUMBER:	08-204262.			
RICHMON	ND, VER ELL DEP		0547	7 (802)	434-607	O - FAX NG DEPTH:	12'		PRESENTATIVE:		ocka	rd, Matt Guerino
			IRING D	PRILLING):	5'	NO DEI III.	12		ING COMPANY:	ECS A		
SCREEN						<i>DEPTH:</i>			BORING TYPE			direct-push
SCREEN	TYPE/S	IZE:			I.				LING METHOD:			Liner
	DIAMET					<i>D</i> ЕРТН:			ICE POINT (RP)	:		
RISER	TYPE/S							ELE	VATION OF RP:			
	REMAR	RKS:										
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>ДЕРТН</b> (FT)	BLOWS /6"	RECOVERY (FEET)	\$	SAMPLE DESCRIP AND NOTES	TION	PID (PPM)	WE PROF		LEGEND
0		0	-4		3.0		nt brown, medium san	d with some				Concrete
1						coarse sa Black stair	and, dry. ning, same as above, o	dor. drv. PID				$\boxtimes$
2						reading.	8,	,,,	23	▓■		Native Material
3										▓█		
4		4	-8_		3.0		ck to dark gray, fine sa			▒≣		Bentonite
5							below boring, PID reavater level.	ding below				
6						Broaman			279			Filter Sand
7												<u> 100.03</u>
8		8-	-12		3.0	0-2.5' Gray	y, fine sand and silt, st	rong odor	472	▓■		Riser
9							i. ght brown, gravel with	medium san	d.			
10										▓▋		Screen
11										₩₩		
12												Water Level
13												
14												
15										1		
16												
17												
18												
19										1		
20 21												
21 22												
23												
_	RTIONS U	SED		BLOW CO	UNT (COHES	SIVE SOILS)	RI OW COI	JNT (GRANULAR	SOILS)	Notes:		
AND SOME LITTLE TRACE	33-50 20-33 10-20	% % %	<2 2-4 4-8 8-15 15-30	0	VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF HARD	FF	0-4 4-10 10-30 30-50	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	, GOILG)	notes.		

							D 0 D D 1 0 / 11				~= ••
	1						BORING / W		ENTIFIC	ATION:	SB-20
(	1							SITE NAME:	Northern P	etroleum-521	1 Bay Street
		1					Siti	E LOCATION:	521 Bay Str	eet, St. John	sbury, Vermont
G2 Muur	CTD	(	LUTE 2	01	(002) 43	4 4500	INSTALLA	ATION DATE:	18 July 200	5	
63 MILLE RICHMON					(802) 43 34-607		Jo	OB NUMBER:	08-204262.0	00	
	ELL DEF			(882)		NG DEPTH:	12'	ECS REA	PRESENTATIVE:	Kim Locka	rd, Matt Guerino
DEPTH	TO WAT	ER (DU	JRING D	PRILLING):	4'			Drill	NG COMPANY:	ECS Agawa	
SCREEN	DIAMET	TER:				<i>D</i> ЕРТН:			BORING TYPE	Geoprobe o	lirect-push
	TYPE/S								LING METHOD:	Disposable	Liner
	DIAMET					<i>DEPTH:</i>			ICE POINT (RP):		
RISER	R TYPE/S REMAI							ELE	VATION OF RP:		
	KEMAI	KKS.									
DEРТН (IN FEET)	SAMPLE ID	AMPLE	ЕРТН (FT)	BLOWS /6"	RECOVERY (FEET)	5	SAMPLE DESCRIPT AND NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
	SAI	S	DE		RE(				, ,		
0		(	)-4		3.0		m SAND, little grave		6.7		Concrete
1						orders. 6	6' – layer of black stair @ 1.5'.	ied soils with			$\boxtimes$
2						J					Native Material
3											
4		4	Ť		4.0	SAND;			6.3	No Well	Bentonite
5						Bottom 1 -	- f SAND, trace silt;	slight odor		140 Well	Eile G 1
6											Filter Sand
7											5.45
8		8	-12		3.0		as above. t – c SAND and GRA	VEL; PID @			Riser
9						11 ft.			5.0		Screen
10									3.0		
11											<b>▼</b> Water
13											Level
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
PROPOI AND SOME LITTLI TRAC	E 10-20	)% 3% )%	<2 2-4 4-8 8-15 15-3	S0 M S <sup>-</sup> 0 VI	NT (COHES ERY SOFT OFT EDIUM STI TIFF ERY STIFF	,	0-4 4-10 10-30 30-50	JNT (GRANULAR VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	SOĪLS)	Notes:	

	1						BORING / W	ELL ID	ENTIFIC	CATION:	SB-21
4	L.,							SITE NAME:	Northern I	Petroleum-52	1 Bay Street
							Site	E LOCATION:	521 Bay St	reet, St. John	sbury, Vermont
62 Muus	T CTDE	ET C		01	(902) 43	4 4500	INSTALLA	ITION DATE:	18 July 200	)5	
63 MILLE RICHMON					(802) 43 434-607		Jo	OB NUMBER:	08-204262.	00	
	ELL DEP					ING DEPTH:	12'		PRESENTATIVE:	Kim Locka	rd, Matt Guerino
			IRING D	PRILLING):	5'			Drilli	ING COMPANY:	ECS Agaw	
SCREEN					<u> </u>	<i>DEPTH:</i>			BORING TYPE	Geoprobe	
	TYPE/Si				T	Depart			LING METHOD:	Disposable	Liner
	DIAMET TYPE/SI					<i>D</i> ЕРТН:			ICE POINT (RP) VATION OF RP:	·	
KISEK	REMAR							ELE	ATION OF KI.		
DEPTH (IN FEET)	SAMPLE ID	SAMPLE	<b>ДЕРТН (FT)</b>	BLOWS /6"	RECOVERY (FEET)	5	SAMPLE DESCRIP <sup>*</sup> AND NOTES	ΓΙΟΝ	PID (PPM)	WELL PROFILE	LEGEND
0		0	-4		3.0	0-1.0' Ligh	ht brown, medium sand	d with some	3.0		Concrete
						fine sand	d, dry.				$\boxtimes$
1							ark brown, same as aboark brown, medium to				
2		ı				and grav	el, dry.				Native Material
3		i l				2.5-3.0' Li	ight brown fine sand ar	nd silt, dry.			
4		4	Ť		4.0	brown m	ht brown, fine sand wit nottling bottom 2', wet	1' below	3.2	,	Bentonite
5		<u> </u>				boring, I	Brown mottling botton			No Well	
6						reading a	at groundwater level.				Filter Sand
7					$\dagger$	İ					MM
8		8-	-12		2.0		ht brown, fine sand wit			1	Riser
9						1.0-2.0 G	lay, coarse saire and 51	avcı.			
10						į					Screen
11		Ī				ı					
12						·				1	Water Level
13		ı <u></u>				ı					
14						l					
15						<u> </u>					
16		ı <u></u>				ı					
17						İ					
18						İ					
19					$\uparrow$	l					
20					+	<u> </u>				†	
21						ı					
22						ı					
23						ı					
PROPOR AND SOME LITTLE TRACE	10-20	% % %	<2 2-4 4-8 8-15 15-30	0	UNT (COHES VERY SOFT SOFT MEDIUM STI STIFF VERY STIFF HARD	FF	0-4 4-10 10-30 30-50	INT (GRANULAR /ERY LOOSE .OOSE MEDIUM DENSE DENSE /ERY DENSE	SOILS)	Notes:	

	The same of the sa					BORING / V	VELL ID	ENTIFICA	ATION: S	SB-22/MW-22
	E.						SITE NAME:	Northern Pe	troleum-521	Bay Street
						SIT	E LOCATION:	521 Bay Stre	et, St. Johns	bury, Vermont
63 Mu i r	T STDE	ET, SUITE 3	201	(802) 43	4 4500	Install	ATION DATE:	18 July 2005		
		MONT 0547		434-607		Ĵ	OB NUMBER:	08-204262.00	)	
W	ELL DEP	TH: <b>12'</b>		BOR	NG DEPTH:	12'	ECS R	EPRESENTATIVE:	Kim Locka Guerino	rd, Matt
<b>D</b> EPTH	TO WATE	ER (DURING I	ORILLING):	5'			DRIL	LING COMPANY:	ECS Agawa	ım
	DIAMET				<i>D</i> ЕРТН:	2-12ft bgs		BORING TYPE	Geoprobe d	
	TYPE/Si		0 slot sche	dule 40		T		PLING METHOD:	Disposable	Liner
	DIAMET TYPE/SI		ch edule 40 P	VC	<i>D</i> ЕРТН:	0-2 ft bgs		ENCE POINT (RP): EVATION OF RP:	Grade Not measur	hod
KISEK	REMAR	70 0111	duie 40 1	VC			LL	EVATION OF ICE.	Not illeasur	eu
DEPTH (IN FEET)	SAMPLE ID	SAMPLE DEPTH (FT)	BLOWS /6"	RECOVERY (FEET)	ξ	SAMPLE DESCRIF AND NOTES	TION	PID (PPM)	WELL PROFILE	LEGEND
0		0-4		3.0		nt brown to gray, med	ium sand witl	h		Concrete
1						ne sand, dry. lack staining, fine san	d and silt. drv	5.2		$\boxtimes$
2						gs taken at 1',2', and		13.0	<b>∭</b> ■₩	Native Material
3								9.0		
		1_8		3.0	0-3 0' Gray	y, fine sand with som	e cilt wet 1 0	8.0	<b></b>	Be <u>nton</u> ite
4		4-0		3.0		oring, sheen below gr				Bentonite
5					level.	gs at groundwater lev	al and Q'	320	<b>                                      </b>	
6					TID ICadiii	igs at groundwater lev	ci and o .		▓█▓	Filter Sand
7								450		
8		8-12		3.0		y, fine sand and silt, s be free product.	heening that		▓█▓	Riser
9					2.0-3.0' Gr	ray, coarse sand and s	ome gravel	250		
10					with some PID readin	fine sand.  gs at 9.5' and 11'		475		Screen
11						<i>8</i>				
12										Water
13										Level
14				+						
15			1							
16										
17										
18			-							
				+						
19				-						
20				1						
21										
22										
23										
PROPOI AND SOME LITTLI TRACI	E 10-20	% <2 % 2-4 % 4-8	V S N 5 S	JNT (COHES YERY SOFT SOFT MEDIUM STI STIFF YERY STIFF MARD		0-4 4-10 10-30 30-50 >50	DUNT (GRANULA) VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	ŕ	Notes:	

# APPENDIX B

FIELD NOTES

H THE FACE THINKS THERE,

Environmental Compliance Services, Inc. 588 Silver Street, Agawam, Massachusetts 01001 MA: (413) 789-3530 FAX: (413) 789-2776

#### WELL SAMPLING LOG

Client:	2	orther	n Pet	releu	m					Job Numbe	r:	087	20420	e Z	<u> </u>	Sheet of
Location:	5/	John	15 tous	V.VT	, /.	Bay Sh	,			- Date:	7	1291	65			
Personnel:	B	rian	Bach	man	n/m	at 76c	veri'n	0		- Weather Co	onditions:	Sun	ny 75	VF.		•
		Point of	Total	Depth to	Depth to	Product	Water	Volume		PID	Dissolved					
Well ID	D	Reference	1 '	Product	Water	Thickness	Height	Purged	Odors	1 -	Oxygen	рН	Sp. Cond.	Temp	Sample	
		(PVC/Rim)	(feet)	(feet)	(feet)	(feet)	(feet)	(gallons)	(Y/N)	(ppmv)	(mg/L)		(umhos/sec)	(°C)	Time	Comments
MW-22	ļ	0.15	11.21	ND	5.56		5.65	1.41				<b>_</b>				Sheen oder
MW-S	ļ	0.10	10.82	ND	5,75		5.07	2.53	ļ	ļ					15:00	
MW-101		0.10	11.40	CN	547		5.93	1.48							1450	
MW-IR	<u> </u>	0.05	12.22	Ν̈́D	567		6.55	1.53				ļ			1440	
Dup.	ļ				ļ			ļ		<u> </u>					1320	
	<u> </u>					ļ		<u> </u>				ļ				
		ļ						<u> </u>								
	<u> </u>											ļ				
	<u> </u>	<u> </u>						ļ								
					<u> </u>											
												٠,				
ŀ	nstru	mentation	& Equipme	nt	Ma	anufacturer/M	lodel	I.D.	Ca	libration	`	Decon			٠	Notes
Stainless s	teel t	<del>pailers</del>				NA			~	-NA	Alcor	iox, meth	anol; <del>DI</del>			
Water Leve	ol-Ind	ieator		<del></del>	<del> </del>	-Slope-			_	NA	1	Methanol,				· · · · · · · · · · · · · · · · · · ·
Temp-sens	l-pH	meters			1	Corning		······			†	<del>Vethanol,</del>				,
<u>'</u>													-			
D = Well di	amet	ter in inche	s.		1				1							
1																
			ا ۽ ا													

Environmental Compliance Services, Inc.

588 Silver Street, Agawam, Massachusetts 01001 MA: (413) 789-3530 FAX: (413) 789-2776

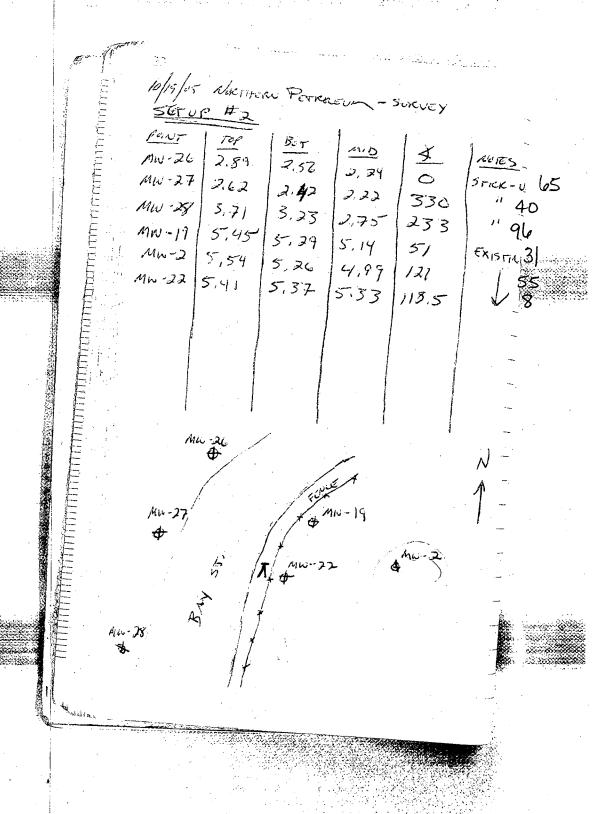
### **WELL SAMPLING LOG**

Client:		16R714	FRN F	ETHOL	EUM					Job Numbe	r:	ړے	3-20420	, , ,		Sheet of 2
_ocation:		51	JOHN	SBURY	1		·			Date:	- 7 t	29/03	<u>-</u>			_
Personnel:		MiG	UERIN	10 & B	· BACIL	MAN				Weather Co	onditions:	SUNA	Y 750	<u> </u>		<u>-</u>
		Point of	Total	Depth to	Depth to	Product	Water	Volume		PID	Dissolved					
Well ID	D	Reference	Depth	Product	Water	Thickness	Height	Purged	ŀ	Readings	Oxygen	pН	Sp. Cond.	Temp	Sample	
		(PVC/Rim)	(feet)	(feet)	(feet)	(feet)	(feet)	(gallons)		(ppmv)	(mg/L)		(umhos/sec)	(°C)	Time	Comments
MW-1		14.70	10.97	NO	5.57		5.40	24 15	1						1353	
MW- 26	\$	0.15	10.30	40	5.79		4.49	1800	6				<u> </u>		1400	Shoon OOOV
MW-4		0.20	10.90	dn	5,05		5.85	1334							1445	
MWS		DILO	10.92	CA	4,91		6.01	24(0)							1440	deficial screen
MN-7		2.95 AG\$	-	6.45	7.00	0.55									1105	PROUT FOUND 1 1/2" sade
MM-B		3.40A5	17,96	ND	6.60		8.26	2.07							1430	
MW-11		0.15	りから	ND	3.60		7.70	1,80							1435	GREVISHT, SCHEEN, OGOP
MW-12		0.15	10.32	T-	491		5.41	1.32	4					-	1430	CHERY SICT, SCHEEN, OBOR
MW-13		7.15	10.75	_	4.99		₹.३४	1.47						· · · · · · · · · · · · · · · · · · ·	1425	Heavy Sheen, Obor
MW-16		0.15	11.12	ND	5.42		5.70	22	F						1320	
MW-17		0.25	11.10	ND	5.55		5.55	22	<b>9</b> 4						11:45	STEM 6 OPP ON JEP PRODUCT FOUND U.Y "NZAI" BR
MW18		10:05	10.88		5.58	_	5,30	20.34							1335	
MW-19		6.15	10.90	<i>V</i> ~	5.55	† · · · · · · · · · · · · · · · · · · ·	5.35	2). 13	14	<u> </u>					125	Henry Goen ODOR
	nstru		& Equipme			nufacturer/N		1.D.		libration	Ì	Decon				Notes
				ailers		NA				NA	NA Alcor	ex, meth	anol, DI			
			linst I			Slope				NA-	5.6.1	<del>Vethanel</del> ,	DI			***************************************
				Egusp		- <del>Cernin</del> g			-			dethanol,	<del>DI</del>			
			J	<i>V</i>												
										*						
D = Well di	ame	ter in inche	s.		<del></del>			•	•		<del></del>					

A STATE OF THE PARTY.

10/19/05 NONTHERN FORENEUM NEATHER:	10/14/05 NULTURE HI PETROLEUM - SIXVEY
ST. JOHUSBURY, VT MUSTRY GLODY, 50°F	SET UP #1
08-204262,00	Pener TOP MID BUT \$
1005 - MO/BB ONSITE FOR OFFS. TO WELL	411-29 8.21 6.68 5.15 0 306
Souther And Survey.	AIL-30 7.67 6.30 4.93 0 274
TEGN NEW CUNCING SANSEING	AW-31 7,59 6.36 5.15 2 244
WELL ID DIE DIE RIA PLACE TIME LABORES	MW 37 7.64 6.56 5.50 5 214
13.90 6.59 1.75 1335	MW 7 7.16 5.81 4.44 7.5 PREVIOUS SURVEY 270
" May 27 14.30 7.03 1.82 1350 RECEIVED 10.71	Au 8 7.10 5.60 4.10 6 300
14.40 6.50 6.77 0.33" B Fr. Fire State	5,23 93.5
Aw-29 12.00 4.14 1.97 1205 Sheens Herens	11 6.76 5.90 500 67
	MW-1 5.45 4.53 3.63 236 4 MW-29 MW-8
Mu-3, 12.00 4.13 1.97	<b>#</b>
MW 32 12.00 3189 2,63 1215 SHUEN	\$ diw-30
Dollare Collected From MN-30 120	an-7
TRIP CREATED BY ECS 6830	\$ AW-31
Mu - 1 12.50 6.71 1.45 1305 SHEEN	
	\$ Mw-3 2- 1 Mult
1430 - DEPART SITE	T 7
	Jan J
	Φ
Model 1	
<b>,</b>	i

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# APPENDIX C

# LABORATORY ANALYTICAL REPORTS

Report Date: 09-Aug-05 13:52



☐ Final Report ☐ Re-Issued Report ☐ Revised Report

Featuring
HANIBAL TECHNOLOGY

# Laboratory Report

**Environmental Compliance Services** 

65 Millet Street; Suite 301 Richmond, VT 05477

Attn: Ronald Miller

Project: 521 Bay St - St. Johnsbury, VT

Project #: 08-204262

<b>Laboratory ID</b>	Client Sample ID	<u>Matrix</u>	Date Sampled	Date Received
SA31365-01	SB-1-2	Soil	18-Jul-05 09:15	21-Jul-05 08:40
SA31365-02	SB-1-8	Soil	18-Jul-05 09:30	21-Jul-05 08:40
SA31365-03	SB-2-3	Soil	18-Jul-05 09:45	21-Jul-05 08:40
SA31365-04	SB-2-3d	Soil	18-Jul-05 09:50	21-Jul-05 08:40
SA31365-05	SB-2-11	Soil	18-Jul-05 10:00	21-Jul-05 08:40
SA31365-06	SB-5-4 1/2	Soil	18-Jul-05 10:10	21-Jul-05 08:40
SA31365-07	SB-5-8	Soil	18-Jul-05 10:20	21-Jul-05 08:40
SA31365-08	SB-12-4	Soil	18-Jul-05 13:30	21-Jul-05 08:40
SA31365-09	SB-12-11	Soil	18-Jul-05 14:00	21-Jul-05 08:40
SA31365-10	SB-5-8d	Soil	18-Jul-05 10:30	21-Jul-05 08:40
SA31365-11	SB-13-4	Soil	18-Jul-05 15:00	21-Jul-05 08:40
SA31365-12	SB-13-7	Soil	18-Jul-05 15:30	21-Jul-05 08:40
SA31365-13	SB-18-4	Soil	19-Jul-05 09:30	21-Jul-05 08:40
SA31365-14	SB-18-6	Soil	19-Jul-05 10:00	21-Jul-05 08:40
SA31365-15	SB-17-2 1/2	Soil	19-Jul-05 08:00	21-Jul-05 08:40
SA31365-16	SB-17-5	Soil	19-Jul-05 08:15	21-Jul-05 08:40

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met.

Please note that this report contains 38 pages of analytical data plus Chain of Custody document(s).

This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Massachusetts Certification # M-MA138/MA1110 Connecticut # PH-0777

Florida # E87600/E87936 Maine # MA138

New Hampshire # 2538/2972

New York # 11393/11840 Rhode Island # 98

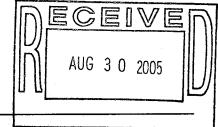
USDA # S-51435

Vermont # VT-11393



Hanibal/C. Tayeh, Ph.D.
President/Laboratory Director

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method indicated. Please refer to our "Quality" webpage at www.spectrum-analytical.com for a full listing of our current certifications.



Matrix Soil Collection Date/Time 18-Jul-05 09:15

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	Flag
Volatile	Organic Compounds	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·	.,			
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
<u>Volatile</u>	Organic Compounds by SW8	<u>46 8260B</u>	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			VOCIO
71-43-2	Benzene	BRL	1160 μg/kg dry	250	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	
100-41-4	Ethylbenzene	8,800	1160 μg/kg dry	250	tt	n	**	*1	11	
1634-04-4	Methyl tert-butyl ether	BRL	1160 µg/kg dry	250	11	"	n	н	*1	
91-20-3	Naphthalene	23,800	1160 µg/kg dry	250	11	**	n	**	11	
108-88-3	Toluene	BRL	1160 μg/kg dry	250		11	u	.,	**	
95-63-6	1,2,4-Trimethylbenzene	82,800	1160 µg/kg dry	250	Ħ	**	"	**	11	
108-67-8	1,3,5-Trimethylbenzene	26,100	1160 μg/kg dry	250	n	"	n	n	#1	
1330-20-7	m,p-Xylene	45,500	2320 μg/kg dry	250		"		10	n	
95-47-6	o-Xylene	8,530	1160 µg/kg dry	250	н	0	11	tt .	11	
Surrogate	recoveries:	V-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1								
460-00-4	4-Bromofluorobenzene	104	70-130 %		11	**	H	11	u	
2037-26-5	Toluene-d8	99.6	70-130 %		ti .	11	11	**		
17060-07-0	1,2-Dichloroethane-d4	110	70-130 %		"	**	ti	0	**	
1868-53-7	Dibromofluoromethane	101	70-130 %		н		11	"	11	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	6,110	27.0 mg/kg dry		8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	27.0 mg/kg dry	1	11	11	n	"		
68553-00 <b>-</b> 4	Fuel Oil #6	BRL	27.0 mg/kg dry	1	#	"	11	"	"	
M09800000	Motor Oil	BRL	27.0 mg/kg dry	1	n	"	**	**	**	
100100000	Aviation Fuel	BRL	27.0 mg/kg dry	1	11	n		11	n	
	Unidentified	BRL	27.0 mg/kg dry	1	n	W	u	**	11	
	Other Oil	BRL	27.0 mg/kg dry	1	H	o o		P		
	Diesel Range Organics (DRO)	6,110	27.0 mg/kg dry	1	II .	H.	**	"	н	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	740	40-140 %		ri .	11	*1	+1	11	S-02
General	Chemistry Parameters									
	% Solids	95.6	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 09:30

	Organic Compounds VOC Extraction Organic Compounds by SW84 Benzene Ethylbenzene Methyl tert-butyl ether Naphthalene Toluene	2,100 14,000 12,800	N/A Prepared by meth 1220 µg/kg dry 1220 µg/kg dry	1 nod SW8	VOC 46 5030 Soil		25-Jul-05	5071509	BD	
Volatile 71-43-2 100-41-4 1634-04-4 91-20-3 108-88-3	VOC Extraction  Organic Compounds by SW84  Benzene Ethylbenzene Methyl tert-butyl ether Naphthalene	2,100 14,000 12,800	Prepared by meth 1220 µg/kg dry 1220 µg/kg dry	od SW8				5071509	BD	
71-43-2 100-41-4 1634-04-4 91-20-3 108-88-3	Benzene Ethylbenzene Methyl tert-butyl ether Naphthalene	2,100 14,000 12,800	1220 μg/kg dry 1220 μg/kg dry		46 5030 Soil	(high leve	1)			
100-41-4 1634-04-4 91-20-3 108-88-3	Ethylbenzene Methyl tert-butyl ether Naphthalene	14,000 12,800	1220 μg/kg dry	500			1)			R-05, VOC10
1634-04-4 91-20-3 108-88-3	Methyl tert-butyl ether Naphthalene	12,800			SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	10010
91-20-3 108-88-3	Naphthalene	= '-		500	"	11	u	11	n	
108-88-3	•	0.050	1220 μg/kg dry	500	H	It	11	10	If	
	Talvana	8,070	1220 µg/kg dry	500	n .	"	11	Ħ	Ħ	
95-63-6	Totuene	1,510	1220 µg/kg dry	500	11	"	11	н	n	
	1,2,4-Trimethylbenzene	39,100	1220 µg/kg dry	500	"	**	"	0	fl	
108-67-8	1,3,5-Trimethylbenzene	12,300	1220 µg/kg dry	500	**	**	**	n	n	
1330-20-7	m,p-Xylene	60,500	2440 μg/kg dry	500	"	**	**	ti	Ħ	
95-47-6	o-Xylene	4,760	1220 μg/kg dry	500	n	u	**	Ħ	10	
Surrogat	e recoveries:									
460-00-4	4-Bromofluorobenzene	103	70-130 %			**		**	0	
2037-26-5	Toluene-d8	99.6	70-130 %		II	"	U	19	H	
17060-07-0	1,2-Dichloroethane-d4	104	70-130 %		"	**	11	11	"	
1868-53-7	Dibromofluoromethane	97.6	70-130 %		II .	11	**	ti	*1	
Extract	able Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	33.1 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	33.1 mg/kg dry	1	u u	#1	11	11	0	
68553-00-4	Fuel Oil #6	BRL	33.1 mg/kg dry	1	H.	111	0	н	11	
M09800000	Motor Oil	BRL	33.1 mg/kg dry	1	If	#	0	U	и	
J00100000	Aviation Fuel	BRL	33.1 mg/kg dry	1	11	10	11	"	It	
	Unidentified	1,750	33.1 mg/kg dry	1	11	11	*1	**	n	
	Other Oil	Calculated as	33.1 mg/kg dry	1	0		**	"	11	
	Diesel Range Organics (DRO)	1,750	33.1 mg/kg dry		ti .	u	Iŧ	11	. "	
Surrogat	e recoveries:		and the state of t							
3386-33-2	1-Chlorooctadecane	220	40-140 %	•	11	Ħ	19	H	n	S-02
Genera	Chemistry Parameters									
	% Solids	78.2	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	
	Fractional Organic Carbon	0.0056	0.0001 N/A	1	SW846 9060	02-Aug-05	02-Aug-05	5080235	AW	

Matrix Soil Collection Date/Time 18-Jul-05 09:45

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
<u>Volatile</u>	Organic Compounds by SW84	46 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			R-05, VOC1
71-43-2	Benzene	4,720	1370 μg/kg dry	250	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	VOCI
100-41-4	Ethylbenzene	6,740	1370 μg/kg dry	250	•	**	*1	**	**	
1634-04-4	Methyl tert-butyl ether	BRL	1370 μg/kg dry	250	U	"	"	н	**	
1-20-3	Naphthalene	14,700	1370 μg/kg dry	250	н	. "	"	n .	**	
08-88-3	Toluene	2,730	1370 µg/kg dry	250	11	n	"	н	#	
5-63-6	1,2,4-Trimethylbenzene	57,600	1370 μg/kg dry	250	n	n	#1	n .	**	
08-67-8	1,3,5-Trimethylbenzene	20,900	1370 μg/kg dry	250	11	"	0	"	11	
330-20-7	m,p-Xylene	73,500	2740 μg/kg dry	250	19	**	n	**	n	
95-47 <b>-</b> 6	o-Xylene	BRL	1370 µg/kg dry	250	H	"	u	n	**	
Surrogate	recoveries:									
60-00-4	4-Bromofluorobenzene	106	70-130 %		#	"	"	10	11	
037-26-5	Toluene-d8	102	70-130 %		н	U		11	11	
7060-07-0	1,2-Dichloroethane-d4	110	70-130 %		n	u	11	n	**	
868-53-7	Dibromofluoromethane	100	70-130 %		Ħ	U	n	"	"	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
58476-30-2	Fuel Oil #2	Calculated as	38.5 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
8476-31-3	Fuel Oil #4	BRL	38.5 mg/kg dry	1	P	**	II .	u	**	
8553-00-4	Fuel Oil #6	BRL	38.5 mg/kg dry	1	II.	"	**	n	11	
M09800000	Motor Oil	BRL	38.5 mg/kg dry	1	D .		· n	**	10	
00100000	Aviation Fuel	BRL	38.5 mg/kg dry	1	n	"	"	#	19	
	Unidentified	1,920	38.5 mg/kg dry	1	. "	n	**		ш	
	Other Oil	Calculated as	38.5 mg/kg dry	1	**	"	**	"	11	
	Diesel Range Organics (DRO)	1,920	38.5 mg/kg dry	1	"	u	"	H	"	
Surrogate	recoveries:									
386-33-2	1-Chlorooctadecane	162	40-140 %		W.	*1	u	ti	ti	S-02
General	Chemistry Parameters									
٠	% Solids	69.3	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 09:50

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	t Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile (	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	·l)			R-05, VOC10
71-43-2	Benzene	4,370	3730 μg/kg dry	500	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	VOCIO
100-41-4	Ethylbenzene	4,740	3730 μg/kg dry	500	"	u	Ħ	**	11	
1634-04-4	Methyl tert-butyl ether	BRL	3730 μg/kg dry	500	п	н	n	11	11	
91-20-3	Naphthalene	14,300	3730 µg/kg dry	500	u	11	**	**	"	
108-88-3	Toluene	BRL	3730 μg/kg dry	500	II .		tt		**	
95-63-6	1,2,4-Trimethylbenzene	49,500	3730 μg/kg dry	500	п	u	**	**	"	
108-67-8	1,3,5-Trimethylbenzene	18,300	3730 μg/kg dry	500		u	*1	H	u	
1330-20-7	m,p-Xylene	70,000	7460 μg/kg dry	500	II .	u	tt	n	ti	
95-47-6	o-Xylene	BRL	3730 μg/kg dry	500	n	U	11	**	**	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	102	70-130 %		n .	n	11	**	II	
2037-26-5	Toluene-d8	98.6	70-130 %		u ·	u	н	"	U	
17060-07-0	1,2-Dichloroethane-d4	108	70-130 %		u	**	11	**	н	
1868-53-7	Dibromofluoromethane	98.6	70-130 %		11	*1	"	H	U	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	3,760	37.6 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	37.6 mg/kg dry	1		11	u	0	11	
68553-00-4	Fuel Oil #6	BRL	37.6 mg/kg dry	1	11	"	n	tt	**	
M09800000	Motor Oil	BRL	37.6 mg/kg dry	1	и	"	ŧı	ıı	11	
J00100000	Aviation Fuel	BRL	37.6 mg/kg dry	1	u	0	n	**	11	
	Unidentified	BRL	37.6 mg/kg dry	1	u	0	и	"	11	
	Other Oil	BRL	37.6 mg/kg dry	1	n	u	*1	11	19	
	Diesel Range Organics (DRO)	3,760	37.6 mg/kg dry	1	11	11	11	"	H	
Surrogate	recoveries:						-			
3386-33-2	1-Chlorooctadecane	210	40-140 %		II	11	ŋ	11	ti	S-02
General	Chemistry Parameters % Solids	71.9	%	. 1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 10:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	t Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile	Organic Compounds by SW84	46 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			VOCI
71-43-2	Benzene	BRL	209 μg/kg dry	50	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	
100-41-4	Ethylbenzene	BRL	209 μg/kg dry	50	0	n	n	**	**	
1634-04-4	Methyl tert-butyl ether	944	209 μg/kg dry	50	11	"	O	H	ti	
91-20-3	Naphthalene	259	209 μg/kg dry	50	10	"	n	11	"	
108-88-3	Toluene	BRL	209 μg/kg dry	50	11	11	n	**	"	
95-63-6	1,2,4-Trimethylbenzene	280	209 μg/kg dry	50	**	•	"	**	u	
108-67-8	1,3,5-Trimethylbenzene	BRL	209 μg/kg dry	50	11	"	11	11	"	
1330-20-7	m,p-Xylene	524	418 μg/kg dry	50	11	H	**	**	U	
95-47-6	o-Xylene	BRL	209 μg/kg dry	50	ti	u	11	"	n	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	101	70-130 %		U	n	**	*1	11	
2037-26-5	Toluene-d8	98.0	70-130 %		n	II.	+1	n	11	
17060-07-0	1,2-Dichloroethane-d4	108	70-130 %		o o	u	**	**	11	
1868-53-7	Dibromofluoromethane	100	70-130 %		n		11	n	**	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	33.7 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	33.7 mg/kg dry	1	п	u	11	11	n	
68553-00-4	Fuel Oil #6	BRL	33.7 mg/kg dry	1	n	n	It	**	11	
M09800000	Motor Oil	BRL	33.7 mg/kg dry	1	11	"	11	**	"	
J00100000	Aviation Fuel	BRL	33.7 mg/kg dry	1	n	U	11	**	u	
	Unidentified	55.9	33.7 mg/kg dry	1	Ħ	н	11	11	U	
	Other Oil	BRL	33.7 mg/kg dry	1	11	Ħ	31	· H-	"	
	Diesel Range Organics (DRO)	55.9	33.7 mg/kg dry	1	11	"	11	11	IJ	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	60.4	40-140 %		11	n	n	11	11	
General	Chemistry Parameters									
	% Solids	76.8	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 10:10

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
<u>Volatile</u>	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5035A Soi	l (low lev	rel)			VOCI
71-43-2	Benzene	15.8	6.0 μg/kg dry	1	SW846 8260B	27-Jul-05	27-Jul-05	5071621	tim	
100-41-4	Ethylbenzene	7.0	6.0 μg/kg dry	1	0	19	**	н	11	
1634-04-4	Methyl tert-butyl ether	9.1	6.0 μg/kg dry	1	н	u	11	**	11	
91-20-3	Naphthalene	22.9	6.0 μg/kg dry	1	u	U	n	**	11	
108-88-3	Toluene	8.1	6.0 μg/kg dry	1	п	H	**	**	11	
95-63-6	1,2,4-Trimethylbenzene	64.5	6.0 μg/kg dry	1	U	n	**	**	11	
108-67-8	1,3,5-Trimethylbenzene	17.2	6.0 μg/kg dry	1	11	11	u	U	**	
1330-20-7	m,p-Xylene	46.9	12.0 μg/kg dry	1	t <del>e</del>	"	n	19	**	
95-47-6	o-Xylene	8.1	6.0 μg/kg dry	1	IF	**	U	n	Ħ	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	97.6	70-130 %		11	Ħ	n	11	ti	
2037-26-5	Toluene-d8	98.2	70-130 %		19	**	Ħ	U	**	
17060-07-0	1,2-Dichloroethane-d4	109	70-130 %		10	"	u	n	н	
1868-53-7	Dibromofluoromethane	106	70-130 %		16	**	U	n	*1	
Extracta	able Petroleum Hydrocarboi	18								
	ange Organics		Prepared by meth	od SW8	46 3545A					
	Fuel Oil #2	Calculated as	33.1 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	33.1 mg/kg dry	1	u	u	11	. 11	11	
68553-00-4	Fuel Oil #6	BRL	33.1 mg/kg dry	1	u	D	#	**	11	
M09800000	Motor Oil	BRL	33.1 mg/kg dry	1	"	u	11	11	U	
J00100000	Aviation Fuel	BRL	33.1 mg/kg dry	1	11	u	"	"	"	
	Unidentified	190	33.1 mg/kg dry	1	11	"	"	11	**	
	Other Oil	BRL	33.1 mg/kg dry	1	"	"	n	"	*	
	Diesel Range Organics (DRO)	190	33.1 mg/kg dry	1	H .	"	**	"	"	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	91.1	40-140 %		0	n	Ħ	"	"	
General	Chemistry Parameters									
	% Solids	80.0	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 10:20

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	t Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	·l)			VOCIO
71-43-2	Benzene	BRL	202 μg/kg dry	100	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	
100-41-4	Ethylbenzene	BRL	202 μg/kg dry	100	n	*1	19	11	U	
1634-04-4	Methyl tert-butyl ether	BRL	202 μg/kg dry	100	"	u	**	11	19	
91-20-3	Naphthalene	1,080	202 μg/kg dry	100	"	**	11	н	11	
108-88-3	Toluene	BRL	202 μg/kg dry	100	**	11	11	**	11	
95-63-6	1,2,4-Trimethylbenzene	2,010	202 μg/kg dry	100	"	11	IP	11	U	
108-67-8	1,3,5-Trimethylbenzene	790	202 μg/kg dry	100	"	"	19	11	19	
1330-20-7	m,p-Xylene	1,230	405 μg/kg dry	100	"	**	11	11	11	
95-47-6	o-Xylene	BRL	202 μg/kg dry	100	n n	H	11	"	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	104	70-130 %		"	u	19	19	ŧ1	
2037-26-5	Toluene-d8	96.2	70-130 %		n	u	11	11	11	
17060-07-0	1,2-Dichloroethane-d4	112	70-130 %		n	er e	11	n	#1	
1868-53-7	Dibromofluoromethane	103	70-130 %			*1	11	u	11	
Extracta	able Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	369	36.1 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	36.1 mg/kg dry	1	**	**	n	n	11	
68553-00-4	Fuel Oil #6	BRL	36.1 mg/kg dry	$\sim 1$	10	**	u	19	"	
м09800000	Motor Oil	BRL	36.1 mg/kg dry	1	"	**	(I	11	U	
J00100000	Aviation Fuel	BRL	36.1 mg/kg dry	1	ıı	"	n	Ħ	tt	
	Unidentified	BRL	36.1 mg/kg dry	1	n	"	n	u	*1	
	Other Oil	BRL	36.1 mg/kg dry	1	ч	"	Ħ	*1	*1	
	Diesel Range Organics (DRO)	369	36.1 mg/kg dry	1	u	10	n	ti	**	
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	86.3	40-140 %		v	*	n	11	"	
General	Chemistry Parameters									
	% Solids	72.2	%	1	SM2540 G Mod.	28-Jul-05	28-Jul-05	5071771	BD	

Matrix Soil Collection Date/Time 18-Jul-05 13:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			R-05, VOC1
71-43-2	Benzene	BRL	180 μg/kg dry	100	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	VUCI
100-41-4	Ethylbenzene	BRL	180 μg/kg dry	100	n	n	"	н	n	
634-04-4	Methyl tert-butyl ether	BRL	180 μg/kg dry	100	II	n	Ħ	11	11	
1-20-3	Naphthalene	BRL	360 μg/kg dry	100	19	19	n	n	"	
08-88-3	Toluene	BRL	180 μg/kg dry	100	19	15	n	u	**	
5-63-6	1,2,4-Trimethylbenzene	345	180 μg/kg dry	100			Ħ	Ħ	11	
08-67-8	1,3,5-Trimethylbenzene	BRL	180 μg/kg dry	100	16	11	н	U	**	
330-20-7	m,p-Xylene	BRL	360 µg/kg dry	100	11	41	Ħ	11	**	
95-47-6	o-Xylene	BRL	180 μg/kg dry	100	11	"	U	11	n	
Surrogate	recoveries:									
60-00-4	4-Bromofluorobenzene	106	70-130 %		11	**	n	19	"	
037-26-5	Toluene-d8	96.8	70-130 %		**	*1	u	10	11	
7060-07-0	1,2-Dichloroethane-d4	112	70-130 %		**	ti	11	10	n	
868-53-7	Dibromofluoromethane	103	70-130 %		et e	ti .	ij	11	H	
Extracta	able Petroleum Hydrocarboi	18								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
8476-30-2	Fuel Oil #2	3,620	34.9 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
8476-31-3	Fuel Oil #4	BRL	34.9 mg/kg dry	1	u	<b>91</b>	II.	11	**	
8553-00-4	Fuel Oil #6	BRL	34.9 mg/kg dry	1	11	**	11	11	**	
<b>4098</b> 00000	Motor Oil	BRL	34.9 mg/kg dry	1	11	**	11	10	**	
00100000	Aviation Fuel	BRL	34.9 mg/kg dry	1	41	**	11	19	**	
	Unidentified	BRL	34.9 mg/kg dry	1	er	D	11	н	0	
	Other Oil	BRL	34.9 mg/kg dry	1	u	ŧi	**	11	11	
	Diesel Range Organics (DRO)	3,620	34.9 mg/kg dry	1	"	0	" '	11		
Surrogate	recoveries:									
386-33-2	1-Chlorooctadecane	73.9	40-140 %		n	"	11	11	"	
General	Chemistry Parameters									
	% Solids	72.9	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	

Matrix Soil Collection Date/Time 18-Jul-05 14:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	Flag
Volatile	Organic Compounds				<u> </u>					
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile (	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	1)			voci
71-43-2	Benzene	BRL	140 µg/kg dry	50	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	
100-41-4	Ethylbenzene	140	140 µg/kg dry	50	11	"	n	ți.	**	
1634-04-4	Methyl tert-butyl ether	BRL	140 μg/kg dry	50	11	**	ti .	"	**	
91-20-3	Naphthalene	1,160	140 µg/kg dry	50	11	11	. 4	11	11	
108-88-3	Toluene	BRL	140 μg/kg dry	50	11	"	"	n	11	
95-63-6	1,2,4-Trimethylbenzene	1,740	140 µg/kg dry	50	u	ıı	**	10	U	
108-67-8	1,3,5-Trimethylbenzene	695	140 μg/kg dry	50	u	"	н	**	11	
1330-20-7	m,p-Xylene	722	280 μg/kg dry	50	II	"	п	tı	10	
95-47-6	o-Xylene	BRL	140 μg/kg dry	50	II .	IJ	11	**	"	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	104	70-130 %		11	11	n	11	11	
2037-26-5	Toluene-d8	98.0	70-130 %		11	"	n	"	11	
17060-07-0	1,2-Dichloroethane-d4	112	70-130 %		U	"	"	*1	11	
1868-53-7	Dibromofluoromethane	102	70-130 %		u	ıı	я	*1	"	
Extracta	ble Petroleum Hydrocarbo	ns								
Diesel Ro	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	36.8 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	36.8 mg/kg dry	1	"	"	"	19	11	
68553-00-4	Fuel Oil #6	BRL	36.8 mg/kg dry	1	n	Ħ	"	*1	"	
M09800000	Motor Oil	BRL	36.8 mg/kg dry	1	"	O	11	11	"	
J00100000	Aviation Fuel	BRL	36.8 mg/kg dry	1	**	ti	11	"	**	
	Unidentified	104	36.8 mg/kg dry	1	H.	H	ti	"	19	
	Other Oil	BRL	36.8 mg/kg dry	1	19	11	ti	u	10	
	Diesel Range Organics (DRO)	104	36.8 mg/kg dry	1	I <del>†</del>		*1	11	11	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	61.4	40-140 %		11	O	11	11	Ħ	
General	Chemistry Parameters									
	% Solids	71.1	%	1	SM2540 G Mod.		29-Jul-05			
	Fractional Organic Carbon	0.0054	0.0001 N/A	1	SW846 9060	02-Aug-05	02-Aug-05	5080235	AW	

Matrix Soil Collection Date/Time 18-Jul-05 10:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile	Organic Compounds by SW84	46 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			R-05,
71-43-2	Benzene	BRL	280 μg/kg dry	100	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	VOCIO
100-41-4	Ethylbenzene	BRL	280 μg/kg dry	100	u		"	n	n	
1634-04-4	Methyl tert-butyl ether	BRL	280 μg/kg dry	100	n	"	н	**	"	
91-20-3	Naphthalene	1,590	280 μg/kg dry	100	19	"	11	н	11	
108-88-3	Toluene	BRL	280 μg/kg dry	100	11	**	n	0	"	
95-63-6	1,2,4-Trimethylbenzene	3,560	280 μg/kg dry	100	10	"	H	n	**	
108-67-8	1,3,5-Trimethylbenzene	1,420	280 μg/kg dry	100	11	H	. "	"	n	
1330-20-7	m,p-Xylene	2,250	561 μg/kg dry	100	It	"	n	"	11	
95-47-6	o-Xylene	BRL	280 μg/kg dry	100	"	"	**	"	*	
Surrogate	e recoveries:									
460-00-4	4-Bromofluorobenzene	108	70-130 %		II.	II	10	11	0	
2037-26-5	Toluene-d8	97.6	70-130 %		u	U	"	11	u	
17060-07-0	1,2-Dichloroethane-d4	116	70-130 %		n	u	"	11	*1	
1868-53-7	Dibromofluoromethane	103	70-130 %		U	u	11	"	*1	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	864	34.9 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	34.9 mg/kg dry	1	11	H	**	11	**	
68553-00-4	Fuel Oil #6	BRL	34.9 mg/kg dry	1	ii	н	"	**	10	
M09800000	Motor Oil	BRL	34.9 mg/kg dry	1	**	н	11	11	11	
J00100000	Aviation Fuel	BRL	34.9 mg/kg dry	1	**	n	11	11	11	
	Unidentified	BRL	34.9 mg/kg dry	1	**	n		19	n	
	Other Oil	BRL	34.9 mg/kg dry	1	11	**	H	n	ti .	
	Diesel Range Organics (DRO)	864	34.9 mg/kg dry	1		**	u	11		
Surrogate	e recoveries:									
_	1-Chlorooctadecane	124	40-140 %		11	H	"	<b>51</b>	"	
General	Chemistry Parameters									
	% Solids	74.9	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	

Matrix Soil Collection Date/Time 18-Jul-05 15:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile -	Organic Compounds by SW84	46 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	el)			
71-43-2	Benzene	BRL	157 μg/kg dry	50	SW846 8260B	29-Jul-05	29-Jul-05	5071804	tim	
100-41-4	Ethylbenzene	495	157 µg/kg dry	50	н	0	11	11	u	
1634-04-4	Methyl tert-butyl ether	BRL	157 μg/kg dry	50	**	u	11	11	u	
91-20-3	Naphthalene	1,300	157 μg/kg dry	50	"	U	"	19	ti	
108-88-3	Toluene	281	157 μg/kg dry	50	**	H	11	11	n	
95-63-6	1,2,4-Trimethylbenzene	3,880	157 μg/kg dry	50	"	0	11	•		
108-67-8	1,3,5-Trimethylbenzene	1,540	157 μg/kg dry	50	"	11	n	**	U	
1330-20-7	m,p-Xylene	2,400	314 µg/kg dry	50	"	"	*1	+1	"	
95-47-6	o-Xylene	181	157 μg/kg dry	50	H	"	"	H	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	105	70-130 %		n	"	11	11	"	
2037-26-5	Toluene-d8	95.0	70-130 %		"	"	"	11	0	
17060-07-0	1,2-Dichloroethane-d4	102	70-130 %		"	ti	"	16	U	
1868-53-7	Dibromofluoromethane	97.0	70-130 %		**	"	. "	11	"	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	1,400	33.1 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	33.1 mg/kg dry	1	u	ii .	"	**	n	
68553-00-4	Fuel Oil #6	BRL	33.1 mg/kg dry	1	"	ti	"	**	11	
M09800000	Motor Oil	BRL	33.1 mg/kg dry	1	"	**	11	11	n	
J00100000	Aviation Fuel	BRL	33.1 mg/kg dry	1	41	**	ıı	n	"	
	Unidentified	BRL	33.1 mg/kg dry	1	. 11	**	"	11	"	
	Other Oil	BRL	33.1 mg/kg dry	1	10	11	u	11	u	
	Diesel Range Organics (DRO)	1,400	33.1 mg/kg dry	1	I+	11	(1		"	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	174	40-140 %		Ħ	"	**	"	11	S-02
General	Chemistry Parameters									
	% Solids	80.2	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	

Matrix Soil Collection Date/Time 18-Jul-05 15:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst Fla
Volatile	Organic Compounds		•		•				
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD
Volatile (	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	1)		
71-43-2	Benzene	BRL	139 µg/kg dry	50	SW846 8260B	29-Jul-05	29-Jul-05	5071804	tim
100-41-4	Ethylbenzene	BRL	139 μg/kg dry	50	."	"	"	"	n
1634-04-4	Methyl tert-butyl ether	185	139 μg/kg dry	50	**	"	"	11	n
91-20-3	Naphthalene	BRL	139 µg/kg dry	50	**	**	**	11	
108-88-3	Toluene	BRL	139 µg/kg dry	50	*1	"	ıı	u	11
95-63-6	1,2,4-Trimethylbenzene	325	139 µg/kg dry	50	"	"	"	"	11
108-67-8	1,3,5-Trimethylbenzene	149	139 µg/kg dry	50	n	"	**	0	**
1330-20-7	m,p-Xylene	BRL	279 μg/kg dry	50	"	"	11	0	"
95-47-6	o-Xylene	BRL	139 µg/kg dry	50	n	"		n	II .
Surrogate	recoveries:								
60-00-4	4-Bromofluorobenzene	106	70-130 %		n	"	"	"	U
2037-26-5	Toluene-d8	95.6	70-130 %		**	U	ıı	11	n
17060-07-0	1,2-Dichloroethane-d4	105	70-130 %		"	u	11	#	n
1868-53-7	Dibromofluoromethane	97.6	70-130 %		Ħ	"	,	11	"
Extracta	ible Petroleum Hydrocarboi	18							
Diesel Ro	ange Organics		Prepared by meth	od SW8	46 3545A				
58476-30-2	Fuel Oil #2	180	34.1 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG
58476-31-3	Fuel Oil #4	BRL	34.1 mg/kg dry	1	U	q	11	н	O .
8553-00-4	Fuel Oil #6	BRL	34.1 mg/kg dry	1	11	"	11	"	ŧI
M09800000	Motor Oil	BRL	34.1 mg/kg dry	1	п	"	11	н	ŧI
000001000	Aviation Fuel	BRL	34.1 mg/kg dry	1	"	**	11	ŧI	**
	Unidentified	BRL	34.1 mg/kg dry	1	н	"	**	11	11
	Other Oil	BRL	34.1 mg/kg dry	1	н	11	11	11	IJ
	Diesel Range Organics (DRO)	180	34.1 mg/kg dry	1	11	"	11		0
Surrogate	recoveries:								
3386-33-2	1-Chlorooctadecane	66.7	40-140 %		II	11	"	H	"
General	Chemistry Parameters % Solids	78.0	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD

Matrix Soil Collection Date/Time 19-Jul-05 09:30

<del></del> Volatile										Flag
	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
<u>Volatile</u>	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	1)			VOCIO
71-43-2	Benzene	BRL	5610 μg/kg dry	2500	SW846 8260B	27-Jul-05	28-Jul-05	5071663	tim	
100-41-4	Ethylbenzene	79,100	5610 μg/kg dry	2500	11	**	n	"	**	
1634-04-4	Methyl tert-butyl ether	BRL	5610 μg/kg dry	2500	11	11	n	u	11	
91-20-3	Naphthalene	118,000	5610 μg/kg dry	2500	11	*1	n	"	**	
108-88-3	Toluene	123,000	5610 μg/kg dry	2500	II.	* 11	11	u	11	
95-63-6	1,2,4-Trimethylbenzene	684,000	5610 μg/kg dry	2500	11	11	H	"	**	
108-67-8	1,3,5-Trimethylbenzene	217,000	5610 μg/kg dry	2500	"	11	0	n	*1	
1330-20-7	m,p-Xylene	506,000	11200 μg/kg dry	2500	u	11	n	ŧı	11	
95-47-6	o-Xylene	248,000	5610 μg/kg dry	2500	10	#	n	u	*1	
Surrogat	e recoveries:									
460-00-4	4-Bromofluorobenzene	101	70-130 %		19	11	*1	*1	11	
2037-26-5	Toluene-d8	99.2	70-130 %		U	11	Ħ	*1	u	
17060-07-0	1,2-Dichloroethane-d4	113	70-130 %		U	11	*1	**	U	
1868-53-7	Dibromofluoromethane	103	70-130 %		U	11	R	н	U	
Extract	able Petroleum Hydrocarboi	18								
Diesel R	Range Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	30.9 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	30.9 mg/kg dry	1	*	**		u	"	
68553-00-4	Fuel Oil #6	BRL	30.9 mg/kg dry	1	"	11	U	n	**	
M09800000	Motor Oil	BRL	30.9 mg/kg dry	1	**	11	ч.	**	".	
J00100000	Aviation Fuel	BRL	30.9 mg/kg dry	1	"	**	**	ţi.	11	
	Unidentified	14,300	30.9 mg/kg dry	1	**	11	**	**		
	Other Oil	Calculated as	30.9 mg/kg dry	1	"	n	. "	H	ŧı	
	Diesel Range Organics (DRO)	14,300	30.9 mg/kg dry	1	"	11	н	"	ti .	
Surrogat	e recoveries:									
3386-33-2	I-Chlorooctadecane	3580	40-140 %		0 '	"	11	"	11	S-02
Genera	l Chemistry Parameters									
	% Solids	84.9	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	
	Fractional Organic Carbon	0.0151	0.0001 N/A	1	SW846 9060	02-Aug-05	02-Aug-05	5080235	AW	

Matrix Soil Collection Date/Time 19-Jul-05 10:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds						•			
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile -	Organic Compounds by SW84	16 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	1)			R-05
71-43-2	Benzene	6,080	2300 μg/kg dry	1000	SW846 8260B	29-Jul-05	29-Jul-05	5071804	tim	
100-41-4	Ethylbenzene	13,600	2300 μg/kg dry	1000	19	**	n	11	*1	
1634-04-4	Methyl tert-butyl ether	3,780	2300 μg/kg dry	1000	19	**	**	*1	11	
91-20-3	Naphthalene	8,040	2300 μg/kg dry	1000	le .	**	u	n	11	
108-88-3	Toluene	24,400	2300 μg/kg dry	1000	11	•	H	Ħ	•	
95-63-6	1,2,4-Trimethylbenzene	47,200	2300 μg/kg dry	1000	10	#	u	n	11	
108-67-8	1,3,5-Trimethylbenzene	15,700	2300 μg/kg dry	1000	19	**	n	n	11	
1330-20-7	m,p-Xylene	66,500	4600 μg/kg dry	1000	18	н	u	n	**	
95-47-6	o-Xylene	25,300	2300 μg/kg dry	1000	H	**	U	"	**	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	101	70-130 %		**	Ħ	n	0	н	
2037-26-5	Toluene-d8	99.2	70-130 %				**	n	11	
17060-07-0	1,2-Dichloroethane-d4	104	70-130 %		II .	u	11	**	**	
1868-53-7	Dibromofluoromethane	95.6	70-130 %		,11	"	. "	**	"	
Extracta	able Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
	Fuel Oil #2	Calculated as	32.8 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	32.8 mg/kg dry	. 1	u	n	'n	**	0	
68553-00-4	Fuel Oil #6	BRL	32.8 mg/kg dry	1	u	U	n	**	"	
M09800000	Motor Oil	BRL	32.8 mg/kg dry	1	"	n	11	**	11	
J00100000	Aviation Fuel	BRL	32.8 mg/kg dry	1	"	a	If	"	ti ti	
	Unidentified	725	32.8 mg/kg dry	1	**	11	u	u	<b>(</b> I	
	Other Oil	Calculated as	32.8 mg/kg dry	1	11	Ħ	ŧ	ti	**	
	Diesel Range Organics (DRO)	725	32.8 mg/kg dry	1	II	10	e	11	11	
Surrogate	e recoveries:									
-	1-Chlorooctadecane	206	40-140 %		ti	u	11	17	11	S-02
General	Chemistry Parameters									
	% Solids	79.6	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	

Matrix Soil Collection Date/Time 19-Jul-05 08:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds					•	•			
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
Volatile	Organic Compounds by SW84	46 8260 <u>B</u>	Prepared by meth	od SW8	46 5030 Soil	(high leve	l)			R-05
71-43-2	Benzene	2,250	1170 μg/kg dry	500	SW846 8260B	29-Jul-05	29-Jul-05	5071804	tim	•
100-41-4	Ethylbenzene	4,250	1170 μg/kg dry	500	ij	ıı .	**	11	ıı	
1634-04-4	Methyl tert-butyl ether	BRL	1170 µg/kg dry	500	u	u	и	H	u	
91-20-3	Naphthalene	11,900	1170 μg/kg dry	500	U	II	It	IT	n	
108-88-3	Toluene	4,380	1170 µg/kg dry	500	II	n	It	11	II .	
95-63-6	1,2,4-Trimethylbenzene	38,200	1170 µg/kg dry	500	H	н	11	11	II.	
108-67-8	1,3,5-Trimethylbenzene	11,800	1170 μg/kg dry	500	u	n	IP	11	n	
1330-20-7	m,p-Xylene	22,600	2350 μg/kg dry	500	H	"	**	#	11	
95-47-6	o-Xylene	7,180	1170 μg/kg dry	500	11	10	- 11	11	"	
Surrogate	e recoveries:									
460-00-4	4-Bromofluorobenzene	102	70-130 %		n	11	11	11	II.	
2037-26-5	Toluene-d8	101	70-130 %		H	11	**	**	11	
17060-07-0	1,2-Dichloroethane-d4	104	70-130 %		0	II.	**	*1	II	
1868-53-7	Dibromofluoromethane	96.0	70-130 %		n	If	u	**	n	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	28.3 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	28.3 mg/kg dry	1	11	"	U	u	Ħ	
68553-00-4	Fuel Oil #6	BRL	28.3 mg/kg dry	1	H	"	n	. 0	11	
M09800000	Motor Oil	BRL	28.3 mg/kg dry	1	U	u	11	*1	ıı	
J00100000	Aviation Fuel	BRL	28.3 mg/kg dry	1	n	U	"	"	11	
	Unidentified	4,630	28.3 mg/kg dry	1	**	Ħ	U	"	H	
	Other Oil	Calculated as	28.3 mg/kg dry	1	H	. 11	U	"	**	
	Diesel Range Organics (DRO)	4,630	28.3 mg/kg dry	1	n	"	**	"	"	
Surrogate	e recoveries:									
3386-33-2	I-Chlorooctadecane	811	40-140 %		ti	"	11	"	H	S-02
General	Chemistry Parameters									
	% Solids	92.8	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	
	Fractional Organic Carbon	0.0122	0.0001 N/A	1	SW846 9060	02-Aug-05	02-Aug-05	5080235	AW	

Matrix Soil Collection Date/Time 19-Jul-05 08:15

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analysi	Flag
Volatile	Organic Compounds									
	VOC Extraction	Field extracted	N/A	1	VOC	25-Jul-05	25-Jul-05	5071509	BD	
<u>Volatile</u>	Organic Compounds by SW84	46 8260B	Prepared by meth	od SW8	46 5030 Soil	(high leve	1)			VOC10
71-43-2	Benzene	21,600	2490 μg/kg dry	1000	SW846 8260B	28-Jul-05	28-Jul-05	5071721	RLJ	
100-41-4	Ethylbenzene	127,000	2490 μg/kg dry	1000	11	**	U	n	11	
1634-04-4	Methyl tert-butyl ether	BRL	2490 μg/kg dry	1000	H	**	"	0	"	
91-20-3	Naphthalene	87,500	2490 μg/kg dry	1000	**	**	U	n	**	
108-88-3	Toluene	129,000	2490 μg/kg dry	1000	11	"	U	n	#	
95-63-6	1,2,4-Trimethylbenzene	478,000	2490 μg/kg dry	1000	n	"	u	11	"	
108-67-8	1,3,5-Trimethylbenzene	157,000	2490 μg/kg dry	1000	Ħ		"	II	ŧi	
1330-20-7	m,p-Xylene	496,000	4980 μg/kg dry	1000		"	"	n	**	
95-47-6	o-Xylene	156,000	2490 μg/kg dry	1000	**	"	U	u	n	
 Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	108	70-130 %		**	"	II.	n	"	
2037-26-5	Toluene-d8	93.0	70-130 %		**	"	O	II	н	
17060-07-0	1,2-Dichloroethane-d4	102	70-130 %		14	"	n	"	**	
1868-53-7	Dibromofluoromethane	98.4	70-130 %		11	11	u	Ħ	"	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel_R	ange Organics		Prepared by meth	od SW8	46 3545A					
68476-30-2	Fuel Oil #2	Calculated as	33.6 mg/kg dry	1	8015BM/ME4.1 .25	28-Jul-05	01-Aug-05	5071700	KG	
68476-31-3	Fuel Oil #4	BRL	33.6 mg/kg dry	1	n	O	"	"	**	
68553-00-4	Fuel Oil #6	BRL	33.6 mg/kg dry	1	**	ti .	**	11	"	
м09800000	Motor Oil	BRL	33.6 mg/kg dry	1	#1	*1	11	11	0	
J00100000	Aviation Fuel	BRL	33.6 mg/kg dry	1	н	"	"	11	11	
	Unidentified	17,700	33.6 mg/kg dry	1	11	11	11	ti	**	
	Other Oil	Calculated as	33.6 mg/kg dry	1	u		11	u	**	
	Diesel Range Organics (DRO)	17,700	33.6 mg/kg dry	1	tt	"	11	#1	**	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	3020	40-140 %		11	u	19	11	0	S-02
General	Chemistry Parameters									
	% Solids	81.0	%	1	SM2540 G Mod.	29-Jul-05	29-Jul-05	5071795	BD	
	Fractional Organic Carbon	0.0082	0.0001 N/A	1	SW846 9060	02-Aug-05	02-Aug-05	5080235	AW	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071621 - SW846 5035A So	il (low level)								
Blank (5071621-BLK1)			Prepared	& Analyze	d: 27-Jul-	05			
Acetone	BRL	100 μg/kg wet							
Acrylonitrile	BRL	5.0 μg/kg wet							
Benzene	BRL	5.0 μg/kg wet							
Bromobenzene	BRL	5.0 μg/kg wet							
Bromochloromethane	BRL	5.0 μg/kg wet							
Bromodichloromethane	BRL	5.0 μg/kg wet							
Bromoform	BRL	5.0 μg/kg wet							
Bromomethane	BRL	10.0 μg/kg wet							
2-Butanone (MEK)	BRL	50.0 μg/kg wet							
n-Butylbenzene	BRL	5.0 μg/kg wet							
sec-Butylbenzene	BRL	5.0 μg/kg wet							
tert-Butylbenzene	BRL	5.0 μg/kg wet							
Carbon disulfide	BRL	25.0 μg/kg wet							
Carbon tetrachloride	BRL	5.0 μg/kg wet							
Chlorobenzene	BRL	5.0 μg/kg wet							
Chloroethane	BRL	10.0 μg/kg wet							
Chloroform	BRL	5.0 μg/kg wet							
Chloromethane	BRL	10.0 μg/kg wet							
2-Chlorotoluene	BRL	5.0 μg/kg wet							
4-Chlorotoluene	BRL	5.0 μg/kg wet							
1,2-Dibromo-3-chloropropane	BRL	10.0 μg/kg wet							
Dibromochloromethane	BRL	5.0 μg/kg wet							
1,2-Dibromoethane (EDB)	BRL	5.0 μg/kg wet							
Dibromomethane	BRL	5.0 μg/kg wet							
1,2-Dichlorobenzene	BRL	5.0 μg/kg wet							
1,3-Dichlorobenzene	BRL	5.0 μg/kg wet							
1,4-Dichlorobenzene	BRL	5.0 μg/kg wet							
Dichlorodifluoromethane (Freon12)	BRL	10.0 μg/kg wet							
1,1-Dichloroethane	BRL	5.0 μg/kg wet							
1,2-Dichloroethane	BRL	5.0 μg/kg wet							
1,1-Dichloroethene	BRL	5.0 μg/kg wet							
cis-1,2-Dichloroethene	BRL	5.0 μg/kg wet							
trans-1,2-Dichloroethene	BRL	5.0 μg/kg wet							
1,2-Dichloropropane	BRL	5.0 μg/kg wet			-				
1,3-Dichloropropane	BRL	5.0 μg/kg wet							
2,2-Dichloropropane	BRL	5.0 μg/kg wet							
1,1-Dichloropropene	BRL	5.0 μg/kg wet							
cis-1,3-Dichloropropene	BRL	5.0 μg/kg wet 5.0 μg/kg wet							
trans-1,3-Dichloropropene	BRL BRL	5.0 µg/kg wet							
Ethylbenzene Hexachlorobutadiene	BRL	5.0 μg/kg wet							,
2-Hexanone (MBK)	BRL	50.0 μg/kg wet							
Isopropylbenzene	BRL	5.0 μg/kg wet							
4-Isopropyltoluene	BRL	5.0 μg/kg wet							
Methyl tert-butyl ether	BRL	5.0 μg/kg wet							
4-Methyl-2-pentanone (MIBK)	BRL	50.0 μg/kg wet							
Methylene chloride	BRL	50.0 μg/kg wet		٠					
Naphthalene	BRL	5.0 μg/kg wet							
n-Propylbenzene	BRL	5.0 μg/kg wet							
Styrene	BRL	5.0 μg/kg wet							
1,1,1,2-Tetrachloroethane	BRL	5.0 μg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	5.0 μg/kg wet							
Tetrachloroethene	BRL	5.0 μg/kg wet							
Toluene	BRL	5.0 µg/kg wet							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071621 - SW846 5035A So	il (low level)								
Blank (5071621-BLK1)			Prepared	& Analyze	d: 27-Jul	-05			
1,2,3-Trichlorobenzene	BRL	5.0 μg/kg wet							
1,2,4-Trichlorobenzene	BRL	5.0 μg/kg wet							
1,1,1-Trichloroethane	BRL	5.0 μg/kg wet							
1,1,2-Trichloroethane	BRL	5.0 μg/kg wet							
Trichloroethene	BRL	5.0 μg/kg wet							
Trichlorofluoromethane (Freon 11)	BRL	5.0 μg/kg wet							
1,2,3-Trichloropropane	BRL	5.0 μg/kg wet							
1,2,4-Trimethylbenzene	BRL	5.0 μg/kg wet							
1,3,5-Trimethylbenzene	BRL	5.0 μg/kg wet							
Vinyl chloride	BRL	5.0 μg/kg wet							
m,p-Xylene	BRL	10.0 μg/kg wet							
o-Xylene	BRL	5.0 μg/kg wet							
Surrogate: 4-Bromofluorobenzene	45.7	μg/kg wet	50.0		91.4	70-130			
Surrogate: Toluene-d8	49.1	μg/kg wet	50.0		98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.6	μg/kg wet	50.0		103	70-130			
Surrogate: Dibromofluoromethane	52.8	μg/kg wet	50.0		106	70-130			
LCS (5071621-BS1)		, 5 5	Prepared	& Analyze	d: 27-Jul	-05			
Acetone	16.6	μg/kg wet	20.0		83.0	19.4-217			
Acrylonitrile	13.3	μg/kg wet	20.0		66.5	70-130			QC-1
Benzene	18.3	μg/kg wet	20.0		91.5	70-130			-
Bromobenzene	21.6	μg/kg wet	20.0		108	70-130			
Bromochloromethane	19.2	μg/kg wet	20.0		96.0	70-130			
Bromodichloromethane	21.2	μg/kg wet	20.0		106	70-130			
Bromoform	18.4	μg/kg wet	20.0		92.0	70-130			
Bromomethane	17.4	μg/kg wet	20.0		87.0	48.6-171			
2-Butanone (MEK)	8.8	μg/kg wet	20.0		44.0	16.5-153			
n-Butylbenzene	20.2	μg/kg wet	20.0		101	70-130			
sec-Butylbenzene	22.2	μg/kg wet	20.0		111	70-130			
tert-Butylbenzene	22.4	μg/kg wet	20.0		112	70-130			
Carbon disulfide	18.8	μg/kg wet	20.0		94.0	70-130			
Carbon tetrachloride	24.8	μg/kg wet	20.0		124	70-130			
Chlorobenzene	21.2	μg/kg wet	20.0		106	70-130			
	21.9	μg/kg wet	20.0		110	68.8-140			
Chloroform	18.1	μg/kg wet	20.0		90.5	70-130			
Chloroform Chloromethane	17.6	μg/kg wet	20.0		88.0	70-130			
2-Chlorotoluene	20.5	μg/kg wet	20.0		102	70-130			
4-Chlorotoluene	20.6	μg/kg wet	20.0		103	70-130			
1,2-Dibromo-3-chloropropane	17.6	μg/kg wet	20.0		88.0	70-130			
Dibromochloromethane	21.3	μg/kg wet	20.0		106	53.9-173			
1,2-Dibromoethane (EDB)	17.6	μg/kg wet	20.0		88.0	70-130			
Dibromomethane	17.6	μg/kg wet	20.0		88.0	70-130			
1,2-Dichlorobenzene	22.0	μg/kg wet	20.0		110	70-130			
1,3-Dichlorobenzene	22.0	μg/kg wet	20.0		110	70-130			
1,4-Dichlorobenzene	22.2	μg/kg wet	20.0		111	70-130			
Dichlorodifluoromethane (Freon12)	22.7	μg/kg wet	20.0		114	59.6-150			
1,1-Dichloroethane	18.2	μg/kg wet	20.0		91.0	70-130			
1,2-Dichloroethane	17.5	μg/kg wet	20.0		87.5	70-130			
1,1-Dichloroethene	19.9	μg/kg wet	20.0		99.5	70-130			
cis-1,2-Dichloroethene	19.8	μg/kg wet	20.0		99.0	70-130			
•	19.3	μg/kg wet	20.0		96.5	70-130			
trans-1,2-Dichloroethene	17.3	μg/kg wet	20.0		86.5	70-130			
1,2-Dichloropropane 1,3-Dichloropropane	16.2	μg/kg wet	20.0		81.0	70-130			
	15.4	μg/kg wet	20.0		77.0	70-130			
2,2-Dichloropropane 1,1-Dichloropropene	19.5	μg/kg wet	20.0		97.5	70-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071621 - SW846 5035A So	oil (low level)								
LCS (5071621-BS1)			Prepared	& Analyze	d: 27-Jul	-05			
cis-1,3-Dichloropropene	19.4	μg/kg wet	20.0		97.0	70-130			
trans-1,3-Dichloropropene	18.4	μg/kg wet	20.0		92.0	70-130			
Ethylbenzene	21.0	μg/kg wet	20.0		105	70-130			
Hexachlorobutadiene	24.4	μg/kg wet	20.0		122	67.9-157			
2-Hexanone (MBK)	13.2	μg/kg wet	20.0		66.0	70-130			QC-2
Isopropylbenzene	21.0	μg/kg wet	20.0		105	70-130			
4-Isopropyltoluene	23.5	μg/kg wet	20.0		118	70-130			
Methyl tert-butyl ether	17.2	μg/kg wet	20.0		86.0	70-130			
4-Methyl-2-pentanone (MIBK)	13.6	μg/kg wet	20.0		68.0	43.9-154			
Methylene chloride	19.0	μg/kg wet	20.0		95.0	70-130			
Naphthalene	18.9	μg/kg wet	20.0		94.5	70-130			
n-Propylbenzene	21.4	μg/kg wet	20.0		107	70-130			
Styrene	20.8	μg/kg wet	20.0		104	70-130			
1,1,1,2-Tetrachloroethane	23.4	μg/kg wet	20.0		117	70-130			
1,1,2,2-Tetrachloroethane	16.3	μg/kg wet	20.0		81.5	70-130			
Tetrachloroethene	22.2	μg/kg wet	20.0		111	70-130			
Toluene	19.3	μg/kg wet	20.0		96.5	70-130			
1,2,3-Trichlorobenzene	22.7	μg/kg wet	20.0		114	70-130			
1,2,4-Trichlorobenzene	22.7	μg/kg wet	20.0		114	70-130			
1,1,1-Trichloroethane	21.1	μg/kg wet	20.0		106	70-130			
1,1,2-Trichloroethane	17.6	μg/kg wet	20.0		88.0	70-130			
Trichloroethene	20.0	μg/kg wet	20.0		100	70-130			
Trichlorofluoromethane (Freon 11)	20.9	μg/kg wet	20.0		104	70-138			
1,2,3-Trichloropropane	16.0	μg/kg wet	20.0		80.0	70-130			
1,2,4-Trimethylbenzene	21.2	μg/kg wet	20.0		106	70-130			
1,3,5-Trimethylbenzene	21.1	μg/kg wet	20.0		106	70-130			
Vinyl chloride	23.2	μg/kg wet	20.0		116	70-130			
m,p-Xylene	42.9	μg/kg wet	40.0		107	70-130			
o-Xylene	21.5	μg/kg wet	20.0		108	70-130			
			50.0		93.6	70-130			
Surrogate: 4-Bromofluorobenzene	46.8	μg/kg wet	50.0		93.0 99.6	70-130 70-130			
Surrogate: Toluene-d8	49.8	μg/kg wet			99.0 90.6	70-130 70-130			
Surrogate: 1,2-Dichloroethane-d4	45.3	μg/kg wet	50.0		103	70-130 70-130			
Surrogate: Dibromofluoromethane	51.5	μg/kg wet	50.0						
LCS Dup (5071621-BSD1)			<del></del> -	& Analyze			·		
Acetone	17.4	μg/kg wet	20.0		87.0	19.4-217	4.71	50	
Acrylonitrile	14.3	μg/kg wet	20.0		71.5	70-130	7.25	25	
Benzene	19.0	μg/kg wet	20.0		95.0	70-130	3.75	25	
Bromobenzene	22.6	μg/kg wet	20.0		113	70-130	4.52	25	
Bromochloromethane	20.3	μg/kg wet	20.0		102	70-130	6.06	25	
Bromodichloromethane	21.9	μg/kg wet	20.0		110	70-130	3.70	25	
Bromoform	19.4	μg/kg wet	20.0		97.0	70-130	5.29	25	
Bromomethane	18.2	μg/kg wet	20.0		91.0	48.6-171	4.49	50	
2-Butanone (MEK)	10.2	μg/kg wet	20.0		51.0	16.5-153	14.7	50	
n-Butylbenzene	20.8	μg/kg wet	20.0		104	70-130	2.93	25	
sec-Butylbenzene	23.2	μg/kg wet	20.0		116	70-130	4.41	25	
tert-Butylbenzene	23.2	μg/kg wet	20.0		116	70-130	3.51	25	
Carbon disulfide	19.7	μg/kg wet	20.0		98.5	70-130	4.68	25	
Carbon tetrachloride	25.9	μg/kg wet	20.0		130	70-130	4.72	25	
Chlorobenzene	22.2	μg/kg wet	20.0		111	70-130	4.61	25	
Chloroethane	23.0	μg/kg wet	20.0		115	68.8-140	4.44	50	
Chloroform	19.2	μg/kg wet	20.0		96.0	70-130	5.90	25	
Chloromethane	18.7	μg/kg wet	20.0		93.5	70-130	6.06	25	
2-Chlorotoluene	22.2	μg/kg wet	20.0		111	70-130	8.45	25	
4-Chlorotoluene	21.4	μg/kg wet	20.0		107	70-130	3.81	25	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071621 - SW846 5035A So	il (low level)		·						,
LCS Dup (5071621-BSD1)			Prepared	& Analyze	ed: 27-Jul	-05			
1,2-Dibromo-3-chloropropane	18.9	μg/kg wet	20.0		94.5	70-130	7.12	25	
Dibromochloromethane	22.4	μg/kg wet	20.0		112	53.9-173	5.50	50	
1,2-Dibromoethane (EDB)	18.4	μg/kg wet	20.0		92.0	70-130	4.44	25	
Dibromomethane	18.3	μg/kg wet	20.0		91.5	70-130	3.90	25	
1,2-Dichlorobenzene	22.6	μg/kg wet	20.0		113	70-130	2.69	25	
1,3-Dichlorobenzene	22.9	μg/kg wet	20.0		114	70-130	3.57	25	
1,4-Dichlorobenzene	22.9	μg/kg wet	20.0		114	70-130	2.67	25	
Dichlorodifluoromethane (Freon12)	24.3	μg/kg wet	20.0		122	59.6-150	6.78	50	
1,1-Dichloroethane	19.1	μg/kg wet	20.0		95.5	70-130	4.83	25	
1,2-Dichloroethane	18.3	μg/kg wet	20.0		91.5	70-130	4.47	25	
1,1-Dichloroethene	20.9	μg/kg wet	20.0		104	70-130	4.42	25	
cis-1,2-Dichloroethene	20.5	μg/kg wet	20.0		102	70-130	2.99	25	
trans-1,2-Dichloroethene	20.0	μg/kg wet	20.0		100	70-130	3.56	25	
1,2-Dichloropropane	18.3	μg/kg wet	20.0		91.5	70-130	5.62	25	
1,3-Dichloropropane	16.9	μg/kg wet	20.0		84.5	70-130	4.23	25	
2,2-Dichloropropane	16.2	μg/kg wet	20.0		81.0	70-130	5.06	25	
1,1-Dichloropropene	20.3	μg/kg wet	20.0		102	70-130	4.51	25	
cis-1,3-Dichloropropene	20.2	μg/kg wet	20.0		101	70-130	4.04	25	
trans-1,3-Dichloropropene	19.3	μg/kg wet	20.0	•	96.5	70-130	4.77	25	
Ethylbenzene	21.9	μg/kg wet	20.0		110	70-130	4.65	25	
Hexachlorobutadiene	25.4	μg/kg wet	20.0		127	67.9-157	4.02	50	
2-Hexanone (MBK)	13.7	μg/kg wet	20.0		68.5	70-130	3.72	25	QC-2
Isopropylbenzene	22.0	μg/kg wet	20.0		110	70-130	4.65	25	
4-Isopropyltoluene	23.9	μg/kg wet	20.0		120	70-130	1.68	25	
Methyl tert-butyl ether	18.3	μg/kg wet	20.0		91.5	70-130	6.20	25	
4-Methyl-2-pentanone (MIBK)	14.0	μg/kg wet	20.0		70.0	43.9-154	2.90	50	
Methylene chloride	19.7	μg/kg wet	20.0		98.5	70-130	3.62	25	
Naphthalene	19.0	μg/kg wet	20.0		95.0	70-130	0.528	25	
n-Propylbenzene	22.1	μg/kg wet	20.0		110	70-130	2.76	25	
Styrene	22.0	μg/kg wet	20.0		110	70-130	5.61	25	
1,1,1,2-Tetrachloroethane	24.2	μg/kg wet	20.0		121	70-130	3.36	25	
1,1,2,2-Tetrachloroethane	17.3	μg/kg wet	20.0		86.5	70-130	5.95	25	
Tetrachloroethene	23.3	μg/kg wet	20.0		116	70-130	4.41	25	
Toluene	20.2	μg/kg wet	20.0		101	70-130	4.56	25	
1,2,3-Trichlorobenzene	23.1	μg/kg wet	20.0		116	70-130	1.74	25	
1,2,4-Trichlorobenzene	23.0	μg/kg wet	20.0		115	70-130	0.873	25	
1,1,1-Trichloroethane	22.4	μg/kg wet	20.0		112	70-130	5.50	25	
1,1,2-Trichloroethane	18.3	μg/kg wet	20.0		91.5	70-130	3.90	25	
Trichloroethene	21.0	μg/kg wet	20.0		105	70-130	4.88	25	
Trichlorofluoromethane (Freon 11)	22.2	μg/kg wet	20.0		111	70-138	6.51	50	
1,2,3-Trichloropropane	17.0	μg/kg wet	20.0		85.0	70-130	6.06	25	
1,2,4-Trimethylbenzene	22.0	μg/kg wet	20.0		110	70-130	3.70	25	
1,3,5-Trimethylbenzene	22.3	μg/kg wet	20.0		112 120	70-130	5.50 3.39	25 25	
Vinyl chloride	23.9	μg/kg wet	20.0		114	70-130 70-130	6.33	25	
m,p-Xylene	45.4	μg/kg wet	40.0		114	70-130 70-130	5.41	25 25	
o-Xylene	22.8	μg/kg wet	20.0				J.41	43	
Surrogate: 4-Bromofluorobenzene	47.3	μg/kg wet	50.0		94.6	70-130			
Surrogate: Toluene-d8	50.4	μg/kg wet	50.0		101 91.6	70-130 70-130			
Surrogate: 1,2-Dichloroethane-d4	45.8	μg/kg wet	50.0 50.0		91.0 102	70-130 70-130			
Surrogate: Dibromofluoromethane	51.0	μg/kg wet	30.0		102	70-130			
Batch 5071663 - SW846 5030 Soil	(high level)		D====== 1	Q. A	ad. 27 II	05			
Blank (5071663-BLK1)			Prepared	& Analyz	a: Z/-Jul	<b>-</b> U3	···········		
Acetone	BRL	20.0 μg/kg wet							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071663 - SW846 5030 Soil	(high level)								
Blank (5071663-BLK1)			Prepared	& Analyze	d: 27-Jul-	05			
Acrylonitrile	BRL	1.0 μg/kg wet	• · · · · · ·	<del></del>					
Benzene	BRL	1.0 µg/kg wet							
Bromobenzene	BRL	1.0 μg/kg wet							
Bromochloromethane	BRL	1.0 μg/kg wet							
Bromodichloromethane	BRL	1.0 μg/kg wet							
Bromoform	BRL	1.0 µg/kg wet							
Bromomethane	BRL	2.0 μg/kg wet							
2-Butanone (MEK)	BRL	10.0 μg/kg wet							
n-Butylbenzene	BRL	1.0 μg/kg wet							
sec-Butylbenzene	BRL	1.0 µg/kg wet							
tert-Butylbenzene	BRL	1.0 μg/kg wet							
Carbon disulfide	BRL	5.0 μg/kg wet							
Carbon tetrachloride	BRL	1.0 μg/kg wet							
Chlorobenzene	BRL	1.0 µg/kg wet							
Chloroethane	BRL	2.0 μg/kg wet							
Chloroform	BRL	1.0 μg/kg wet							
Chloromethane	BRL	2.0 μg/kg wet							
2-Chlorotoluene	BRL	1.0 μg/kg wet							
4-Chlorotoluene	BRL	1.0 μg/kg wet							
1,2-Dibromo-3-chloropropane	BRL	2.0 μg/kg wet							
Dibromochloromethane	BRL	1.0 μg/kg wet							
1,2-Dibromoethane (EDB)	BRL	1.0 μg/kg wet							
Dibromomethane	BRL	1.0 μg/kg wet							
1,2-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,3-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,4-Dichlorobenzene	BRL	1.0 μg/kg wet							
Dichlorodifluoromethane (Freon12)	BRL	2.0 μg/kg wet							
1,1-Dichloroethane	BRL	1.0 μg/kg wet							
1,2-Dichloroethane	BRL	1.0 μg/kg wet							
1,1-Dichloroethene	BRL	1.0 µg/kg wet							
cis-1,2-Dichloroethene	BRL	1.0 μg/kg wet							
trans-1,2-Dichloroethene	BRL	1.0 μg/kg wet							
1,2-Dichloropropane	BRL	1.0 µg/kg wet							
1,3-Dichloropropane	BRL	1.0 µg/kg wet							
2,2-Dichloropropane	BRL	1.0 μg/kg wet							
1,1-Dichloropropene	BRL	1.0 μg/kg wet							
cis-1,3-Dichloropropene	BRL	1.0 μg/kg wet							
trans-1,3-Dichloropropene	BRL	1.0 μg/kg wet							
Ethylbenzene	BRL	1.0 μg/kg wet							
Hexachlorobutadiene	BRL	1.0 µg/kg wet							
2-Hexanone (MBK)	BRL	10.0 μg/kg wet							
Isopropylbenzene	BRL	1.0 μg/kg wet							
4-Isopropyltoluene	BRL	1.0 μg/kg wet							
Methyl tert-butyl ether	BRL	1.0 μg/kg wet							
4-Methyl-2-pentanone (MIBK)	BRL	10.0 μg/kg wet							
Methylene chloride	BRL	10.0 μg/kg wet							
Naphthalene	BRL	1.0 μg/kg wet							
n-Propylbenzene	BRL	1.0 μg/kg wet							
Styrene	BRL	1.0 μg/kg wet							
1,1,1,2-Tetrachloroethane	BRL	1.0 μg/kg wet							
1,1,2.7-tetrachloroethane	BRL	1.0 μg/kg wet							
Tetrachloroethene	BRL	1.0 μg/kg wet							
Toluene	BRL	1.0 μg/kg wet							
1,2,3-Trichlorobenzene	BRL	1.0 μg/kg wet							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071663 - SW846 5030 Soil	(high level)								
Blank (5071663-BLK1)			Prepared	& Analyze	ed: 27-Jul-	-05			
1,2,4-Trichlorobenzene	BRL	1.0 μg/kg wet							
1,1,1-Trichloroethane	BRL	1.0 μg/kg wet							
1,1,2-Trichloroethane	BRL	1.0 µg/kg wet							
Trichloroethene	BRL	1.0 µg/kg wet							
Trichlorofluoromethane (Freon 11)	BRL	1.0 µg/kg wet							
1,2,3-Trichloropropane	BRL	1.0 µg/kg wet							
1,2,4-Trimethylbenzene	BRL	1.0 µg/kg wet							
1,3,5-Trimethylbenzene	BRL	1.0 µg/kg wet							
Vinyl chloride	BRL	1.0 µg/kg wet							
m,p-Xylene	BRL	2.0 μg/kg wet							
o-Xylene	BRL	1.0 µg/kg wet							
Surrogate: 4-Bromofluorobenzene	49.1	μg/kg wet	50.0		98.2	70-130			
Surrogate: Toluene-d8	50.2	μg/kg wet	50.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.5	μg/kg wet	50.0		107	70-130			
Surrogate: Dibromofluoromethane	48.9	μg/kg wet	50.0		97.8	70-130			
LCS (5071663-BS1)		100		& Analyze	ed: 27-Jul-	-05			
Acetone	20.9	μg/kg wet	20.0		104	19.4-217			
Acrylonitrile	19.0	μg/kg wet	20.0		95.0	70-130			
Benzene	20.8	μg/kg wet	20.0		104	70-130			
Bromobenzene	20.7	μg/kg wet	20.0		104	70-130			
Bromochloromethane	21.5	μg/kg wet	20.0		108	70-130			
Bromodichloromethane	21.5	μg/kg wet	20.0		108	70-130			
Bromoform	18.9	μg/kg wet	20.0		94.5	70-130			
Bromomethane	24.3	μg/kg wet	20.0		122	48.6-171			
2-Butanone (MEK)	20.8	μg/kg wet	20.0		104	16.5-153			
n-Butylbenzene	21.6	μg/kg wet	20.0		108	70-130			
sec-Butylbenzene	21.1	μg/kg wet	20.0		106	70-130			
•	21.2	μg/kg wet	20.0		106	70-130			
tert-Butylbenzene Carbon disulfide	19.9	μg/kg wet	20.0		99.5	70-130			
Carbon tetrachloride	20.9	μg/kg wet	20.0		104	70-130			
Chlorobenzene	20.3	μg/kg wet	20.0		102	70-130			
	22.5	μg/kg wet	20.0		112	68.8-140			
Chloroform	21.1		20.0		106	70-130			
Chloroform	25.6	μg/kg wet	20.0		128	70-130			
Chloromethane	20.9	μg/kg wet	20.0		104	70-130			
2-Chlorotoluene	20.7	μg/kg wet μg/kg wet	20.0		104	70-130			
4-Chlorotoluene 1,2-Dibromo-3-chloropropane	19.4	μg/kg wet	20.0		97.0	70-130			
Dibromochloromethane	22.2	μg/kg wet	20.0		111	53.9-173			
	20.9	μg/kg wet	20.0		104	70-130			
1,2-Dibromoethane (EDB)  Dibromomethane	21.7	μg/kg wet	20.0		108	70-130			
1,2-Dichlorobenzene	21.7	μg/kg wet	20.0		110	70-130			
1,3-Dichlorobenzene	21.6	μg/kg wet	20.0		108	70-130			
1,4-Dichlorobenzene	21.9	μg/kg wet	20.0		110	70-130			
Dichlorodifluoromethane (Freon12)	29.9	μg/kg wet	20.0		150	59.6-150			
	21.1	μg/kg wet	20.0		106	70-130			
1,1-Dichloroethane 1,2-Dichloroethane	21.6	μg/kg wet	20.0		108	70-130			
1,1-Dichloroethene	19.7	μg/kg wet	20.0		98.5	70-130			
cis-1,2-Dichloroethene	21.1	μg/kg wet	20.0		106	70-130			
•	20.4	μg/kg wet	20.0		102	70-130			
trans-1,2-Dichloroethene	21.8	μg/kg wet μg/kg wet	20.0		102	70-130			
1,2-Dichloropropane	21.8		20.0		110	70-130			
1,3-Dichloropropane	21.9	μg/kg wet μg/kg wet	20.0		122	70-130			
2,2-Dichloropropane			20.0		110	70-130			
1,1-Dichloropropene	21.9	μg/kg wet				70-130			
cis-1,3-Dichloropropene	22.1	μg/kg wet	20.0		110	10-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071663 - SW846 5030 Soil (	high level)								
LCS (5071663-BS1)			Prepared	& Analyze	ed: 27-Jul-	-05			
trans-1,3-Dichloropropene	22.6	μg/kg wet	20.0		113	70-130			
Ethylbenzene	20.3	μg/kg wet	20.0		102	70-130			
Hexachlorobutadiene	24.3	μg/kg wet	20.0		122	67.9-157			
2-Hexanone (MBK)	26.4	μg/kg wet	20.0		132	70-130			QC-1
Isopropylbenzene	19.6	μg/kg wet	20.0		98.0	70-130			
4-Isopropyltoluene	22.6	μg/kg wet	20.0		113	70-130			
Methyl tert-butyl ether	21.1	μg/kg wet	20.0		106	70-130			
4-Methyl-2-pentanone (MIBK)	17.5	μg/kg wet	20.0		87.5	43.9-154			
Methylene chloride	22.6	μg/kg wet	20.0		113	70-130			
Naphthalene	21.3	μg/kg wet	20.0		106	70-130			
n-Propylbenzene	20.2	μg/kg wet	20.0		101	70-130			
Styrene	20.0	μg/kg wet	20.0		100	70-130			
1,1,1,2-Tetrachloroethane	20.9	μg/kg wet	20.0		104	70-130			
1,1,2,2-Tetrachloroethane	19.7	μg/kg wet	20.0		98.5	70-130			
Tetrachloroethene	22.0	μg/kg wet	20.0		110	70-130			
Toluene	21.2	μg/kg wet	20.0		106	70-130			
1,2,3-Trichlorobenzene	21.9	μg/kg wet	20.0		110	70-130			
1,2,4-Trichlorobenzene	21.9	μg/kg wet	20.0		110	70-130			
1,1,1-Trichloroethane	21.3	μg/kg wet	20.0		106	70-130			
1,1,2-Trichloroethane	22.1	μg/kg wet	20.0		110	70-130			
Trichloroethene	20.3	μg/kg wet	20.0		102	70-130			
Trichlorofluoromethane (Freon 11)	23.0	μg/kg wet	20.0		115	70-138			
1,2,3-Trichloropropane	19.1	μg/kg wet	20.0		95.5	70-130			
1,2,4-Trimethylbenzene	20.4	μg/kg wet	20.0		102	70-130			
1,3,5-Trimethylbenzene	20.4	μg/kg wet	20.0		102	70-130			
Vinyl chloride	24.1	μg/kg wet	20.0		120	70-130			
m,p-Xylene	42.0	μg/kg wet	40.0		105	70-130			
o-Xylene	20.6	μg/kg wet	20.0		103	70-130			
Surrogate: 4-Bromofluorobenzene	49.3	μg/kg wet	50.0		98.6	70-130			
Surrogate: Toluene-d8	49.9	μg/kg wet	50.0		99.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.7	μg/kg wet	50.0		107	70-130			
Surrogate: Dibromofluoromethane	50.6	μg/kg wet	50.0		101	70-130			
-	30.0	μ <sub>B</sub> /κ <sub>B</sub> wet		27 1.1 05			5		
LCS Dup (5071663-BSD1)	22.7	a/ka wat	20.0	27-Jul-03	Allalyzec	1: 28-Jul-0: 19.4-217	9.17	50	
Acetone	22.7	μg/kg wet	20.0		97.0	70-130	2.08	25	
Acrylonitrile	19.4	μg/kg wet	20.0		102	70-130	1.94	25	
Benzene	20.3 20.7	μg/kg wet μg/kg wet	20.0		102	70-130	0.00	25	
Bromobenzene	20.7		20.0		104	70-130	3.77	25	
Bromochloromethane Bromodichloromethane	21.7	μg/kg wet μg/kg wet	20.0		108	70-130	0.00	25	
	18.8	μg/kg wet	20.0		94.0	70-130	0.531	25	
Bromoform Bromomethane	24.1	μg/kg wet	20.0		120	48.6-171	1.65	50	
2-Butanone (MEK)	18.7	μg/kg wet	20.0		93.5	16.5-153	10.6	50	
` ,	22.6	μg/kg wet	20.0		113	70-130	4.52	25	
n-Butylbenzene	21.0	μg/kg wet	20.0		105	70-130	0.948	25	
sec-Butylbenzene	21.2	μg/kg wet	20.0		106	70-130	0.00	25	
tert-Butylbenzene	19.4	μg/kg wet	20.0		97.0	70-130	2.54	25	
Carbon disulfide Carbon tetrachloride	20.1	μg/kg wet	20.0		100	70-130	3.92	25	
Chlorobenzene	20.3	μg/kg wet	20.0		102	70-130	0.00	25	
Chloroethane	21.9	μg/kg wet μg/kg wet	20.0		110	68.8-140	1.80	50	
	20.8	μg/kg wet	20.0		104	70-130	1.90	25	
Chloromethane	24.3	μg/kg wet	20.0		122	70-130	4.80	25	
Chloroteluene	20.6	μg/kg wet	20.0		103	70-130	0.966	25	
2-Chlorotoluene	20.5	μg/kg wet	20.0		103	70-130	1.94	25	
4-Chlorotoluene	19.5	μg/kg wet	20.0		97.5	70-130	0.514	25	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071663 - SW846 5030 Soil	(high level)								,
LCS Dup (5071663-BSD1)			Prepared:	27-Jul-05	Analyzed	l: 28-Jul-0:	5		
Dibromochloromethane	20.8	μg/kg wet	20.0		104	53.9-173	6.51	50	
1,2-Dibromoethane (EDB)	20.5	μg/kg wet	20.0		102	70-130	1.94	25	
Dibromomethane	20.5	μg/kg wet	20.0		102	70-130	5.71	25	
1,2-Dichlorobenzene	22.2	μg/kg wet	20.0		111	70-130	0.905	25	
1,3-Dichlorobenzene	21.3	μg/kg wet	20.0		106	70-130	1.87	25	
1,4-Dichlorobenzene	22,5	μg/kg wet	20.0		112	70-130	1.80	25	
Dichlorodifluoromethane (Freon12)	30.1	μg/kg wet	20.0		150	59.6-150	0.00	50	
1,1-Dichloroethane	20.7	μg/kg wet	20.0		104	70-130	1.90	25	
1,2-Dichloroethane	20.8	μg/kg wet	20.0		104	70-130	3.77	25	
1,1-Dichloroethene	20.4	μg/kg wet	20.0		102	70-130	3.49	25	
cis-1,2-Dichloroethene	20.4	μg/kg wet	20.0		102	70-130	3.85	25	
trans-1,2-Dichloroethene	19.9	μg/kg wet	20.0		99.5	70-130	2.48	25	
1,2-Dichloropropane	21.2	μg/kg wet	20.0		106	70-130	2.79	25	
1,3-Dichloropropane	21.0	μg/kg wet	20.0		105	70-130	4.65	25	
2,2-Dichloropropane	23.8	μg/kg wet	20.0		119	70-130	2.49	25	
1,1-Dichloropropene	21.9	μg/kg wet	20.0		110	70-130	0.00	25	
cis-1,3-Dichloropropene	21.4	μg/kg wet	20.0		107	70-130	2.76	25	
trans-1,3-Dichloropropene	22.0	μg/kg wet	20.0		110	70-130	2.69	25	
Ethylbenzene	20.2	μg/kg wet	20.0		101	70-130	0.985	25	
Hexachlorobutadiene	25.4	μg/kg wet	20.0		127	67.9-157	4.02	50	
2-Hexanone (MBK)	25.6	μg/kg wet	20.0		128	70-130	3.08	25	
Isopropylbenzene	19.8	μg/kg wet	20.0		99.0	70-130	1.02	25	
4-Isopropyltoluene	23.6	μg/kg wet	20.0		118	70-130	4.33	25	
Methyl tert-butyl ether	20.4	μg/kg wet	20.0		102	70-130	3.85	25	
4-Methyl-2-pentanone (MIBK)	16.9	μg/kg wet	20.0		84.5	43.9-154	3.49	50	
Methylene chloride	22.2	μg/kg wet	20.0		111	70-130	1.79	25	
Naphthalene	20.6	μg/kg wet	20.0		103	70-130	2.87	25	
n-Propylbenzene	20.4	μg/kg wet	20.0		102	70-130	0.985	25	
Styrene	19.8	μg/kg wet	20.0		99.0	70-130	1.01	25	
1,1,2-Tetrachloroethane	21.1	μg/kg wet	20.0		106	70-130	1.90	25	
1,1,2,2-Tetrachloroethane	19.2	μg/kg wet	20.0		96.0	70-130	2.57	25	
Tetrachloroethene	22.0	μg/kg wet	20.0		110	70-130	0.00	25	
Toluene	20.5	μg/kg wet	20.0		102	70-130	3.85	25	
1,2,3-Trichlorobenzene	21.8	μg/kg wet	20.0		109	70-130	0.913	25	
1,2,4-Trichlorobenzene	22.1	μg/kg wet	20.0		110	70-130	0.00	25	
1,1,1-Trichloroethane	21.0	μg/kg wet	20.0		105	70-130	0.948	25	
1,1,2-Trichloroethane	21.3	μg/kg wet	20.0		106	70-130	3.70	25	
Trichloroethene	20.8	μg/kg wet	20.0		104	70-130	1.94	25	
Trichlorofluoromethane (Freon 11)	22.2	μg/kg wet	20.0		111	70-138	3.54	50	
1,2,3-Trichloropropane	19.0	μg/kg wet	20.0		95.0	70-130	0.525	25	
1,2,4-Trimethylbenzene	20.4	μg/kg wet	20.0		102	70-130	0.00	25	
1,3,5-Trimethylbenzene	20.6	μg/kg wet	20.0		103	70-130	0.976	25	
Vinyl chloride	23.3	μg/kg wet	20.0		116	70-130	3.39	25	
m,p-Xylene	42.3	μg/kg wet	40.0		106	70-130	0.948	25	
o-Xylene	20.2	μg/kg wet	20.0		101	70-130	1.96	25	
Surrogate: 4-Bromofluorobenzene	48.8	μg/kg wet	50.0		97.6	70-130			
Surrogate: Toluene-d8	48.8	μg/kg wet	50.0		97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.0	μg/kg wet	50.0		104	70-130			
Surrogate: Dibromofluoromethane	49.1	μg/kg wet	50.0		98.2	70-130			
Matrix Spike (5071663-MS1)		rce: SA31365-05		27-Jul-05	Analyzed	: 28-Jul-05	j .		
Benzene	21.8	μg/kg dry	20.0	BRL	109	70-130			
Chlorobenzene	21.2	μg/kg dry	20.0	BRL	106	70-130			
1,1-Dichloroethene	21.0	μg/kg dry	20.0	BRL	105	70-130			
Toluene	21.7	μg/kg dry	20.0	BRL	108	70-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071663 - SW846 5030 Soil (h	igh level)			· · · · · · · · · · · · · · · · · · ·					
Matrix Spike (5071663-MS1)	Sou	rce: SA31365-05	Prepared:	27-Jul-05	Analyzed	: 28-Jul-0:	5		
Trichloroethene	21.4	μg/kg dry	20.0	BRL	107	70-130			
Surrogate: 4-Bromofluorobenzene	50.2	μg/kg dry	50.0		100	70-130			
Surrogate: Toluene-d8	48.8	μg/kg dry	50.0		97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	55.9	μg/kg dry	50.0		112	70-130			
Surrogate: Dibromofluoromethane	52.6	μg/kg dry	50.0		105	70-130			
•				27 101 05					
Matrix Spike Dup (5071663-MSD1)		rce: SA31365-05				: 28-Jul-0:		20	
Benzene	22.2	μg/kg dry	20.0	BRL	111	70-130	1.82	30	
Chlorobenzene	22.3	μg/kg dry	20.0	BRL	112	70-130	5.50	30	
1,1-Dichloroethene	22.0	μg/kg dry	20.0	BRL	110	70-130	4.65	30	
Toluene	22.5	μg/kg dry	20.0	BRL	112	70-130	3.64	30	
Trichloroethene	21.6	μg/kg dry	20.0	BRL	108	70-130	0.930	30	
Surrogate: 4-Bromofluorobenzene	49.4	μg/kg dry	50.0		98.8	70-130			
Surrogate: Toluene-d8	48.8	μg/kg dry	50.0		97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.3	μg/kg dry	50.0		107	70-130			
Surrogate: Dibromofluoromethane	50.8	μg/kg dry	<i>50.0</i>		102	70-130			
Batch 5071721 - SW846 5030 Soil (h	igh level)								
Blank (5071721-BLK1)			Prepared	& Analyze	d: 28-Jul-	05			
Acetone	BRL	20.0 μg/kg wet	<del></del>	<u> </u>					
Acrylonitrile	BRL	1.0 μg/kg wet							
Benzene	BRL	1.0 μg/kg wet							
Bromobenzene	BRL	1.0 μg/kg wet							
Bromochloromethane	BRL	1.0 μg/kg wet							
Bromodichloromethane	BRL	1.0 μg/kg wet							
Bromoform	BRL	1.0 μg/kg wet							
Bromomethane	BRL	2.0 μg/kg wet							
	BRL	10.0 μg/kg wet							
2-Butanone (MEK)	BRL								
n-Butylbenzene	BRL	1.0 μg/kg wet							
sec-Butylbenzene		1.0 μg/kg wet							
tert-Butylbenzene	BRL	1.0 μg/kg wet	•						
Carbon disulfide	BRL	5.0 μg/kg wet							
Carbon tetrachloride	BRL	1.0 μg/kg wet							
Chlorobenzene	BRL	1.0 μg/kg wet							
Chloroethane	BRL	2.0 μg/kg wet							
Chloroform	BRL	1.0 μg/kg wet							
Chloromethane	BRL	2.0 μg/kg wet							
2-Chlorotoluene	BRL	1.0 μg/kg wet							
4-Chlorotoluene	BRL	1.0 μg/kg wet							
1,2-Dibromo-3-chloropropane	BRL	2.0 μg/kg wet							
Dibromochloromethane	BRL	1.0 μg/kg wet							
1,2-Dibromoethane (EDB)	BRL	1.0 μg/kg wet							
Dibromomethane	BRL	1.0 μg/kg wet		•					
1,2-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,3-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,4-Dichlorobenzene	BRL	1.0 μg/kg wet							
Dichlorodifluoromethane (Freon12)	BRL	2.0 μg/kg wet							
1,1-Dichloroethane	BRL	1.0 μg/kg wet							
1,2-Dichloroethane	BRL	1.0 μg/kg wet							
1,1-Dichloroethene	BRL	1.0 µg/kg wet							
cis-1,2-Dichloroethene	BRL	1.0 µg/kg wet							
trans-1,2-Dichloroethene	BRL	1.0 µg/kg wet							
1,2-Dichloropropane	BRL	1.0 µg/kg wet							
1,3-Dichloropropane	BRL	1.0 µg/kg wet							
2,2-Dichloropropane	BRL	1.0 μg/kg wet							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071721 - SW846 5030 Soil	(high level)								
Blank (5071721-BLK1)			Prepared .	& Analyze	d: 28-Jul	05			
1,1-Dichloropropene	BRL	1.0 μg/kg wet							
cis-1,3-Dichloropropene	BRL	1.0 μg/kg wet							
trans-1,3-Dichloropropene	BRL	1.0 µg/kg wet							
Ethylbenzene	BRL	1.0 μg/kg wet							
Hexachlorobutadiene	BRL	1.0 μg/kg wet							
2-Hexanone (MBK)	BRL	10.0 μg/kg wet							
Isopropylbenzene	BRL	1.0 µg/kg wet							
4-Isopropyltoluene	BRL	1.0 μg/kg wet							
Methyl tert-butyl ether	BRL	1.0 μg/kg wet							
4-Methyl-2-pentanone (MIBK)	BRL	10.0 μg/kg wet							
Methylene chloride	BRL	10.0 μg/kg wet							
Naphthalene	BRL	1.0 μg/kg wet							
n-Propylbenzene	BRL	1.0 μg/kg wet							
Styrene	BRL	1.0 μg/kg wet							
1,1,1,2-Tetrachloroethane	BRL	1.0 μg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	1.0 μg/kg wet							
Tetrachloroethene	BRL	1.0 μg/kg wet							
Toluene	BRL	1.0 μg/kg wet							
1,2,3-Trichlorobenzene	BRL	1.0 μg/kg wet							
1,2,4-Trichlorobenzene	BRL	1.0 μg/kg wet							
1,1,1-Trichloroethane	BRL	1.0 μg/kg wet							
1,1,2-Trichloroethane	BRL	1.0 μg/kg wet							
Trichloroethene	BRL	1.0 μg/kg wet							
Trichlorofluoromethane (Freon 11)	BRL	1.0 μg/kg wet							
1,2,3-Trichloropropane	BRL	1.0 μg/kg wet							
1,2,4-Trimethylbenzene	BRL	1.0 μg/kg wet							
1,3,5-Trimethylbenzene	BRL	1.0 μg/kg wet							
Vinyl chloride	BRL	1.0 μg/kg wet							
m,p-Xylene	BRL	2.0 μg/kg wet							
o-Xylene	BRL	1.0 μg/kg wet							
Surrogate: 4-Bromofluorobenzene	53.8	μg/kg wet	50.0		108	70-130			
Surrogate: Toluene-d8	47.2	μg/kg wet	50.0		94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	61.1	μg/kg wet	50.0		122	70-130			
Surrogate: Dibromofluoromethane	50.4	μg/kg wet	50.0		101	70-130			
•	50.7	P8.18	Prepared of	& Analyze					
LCS (5071721-BS1)	22.2	ua/lea wet	20.0	K Anaiyzo	112	19.4-217			
Acetone	22.3 15.5	μg/kg wet	20.0		77.5	70-130			
Acrylonitrile Benzene	20.0	μg/kg wet	20.0		100	70-130			
Bromobenzene	21.1	μg/kg wet μg/kg wet	20.0		106	70-130			
Bromochloromethane	18.3	μg/kg wet	20.0		91.5	70-130			
Bromodichloromethane	23.1	μg/kg wet	20.0		116	70-130			
Bromoform	20.5	μg/kg wet	20.0		102	70-130			
Bromomethane	19.6	μg/kg wet	20.0		98.0	48.6-171			
2-Butanone (MEK)	21.9	μg/kg wet	20.0		110	16.5-153			
n-Butylbenzene	18.7	μg/kg wet	20.0		93.5	70-130			
sec-Butylbenzene	21.4	μg/kg wet	20.0		107	70-130			
tert-Butylbenzene	22.4	μg/kg wet	20.0		112	70-130			
Carbon disulfide	12.6	μg/kg wet	20.0		63.0	70-130			QC-2
Carbon disumde  Carbon tetrachloride	16.8	μg/kg wet	20.0		84.0	70-130			~~ <b>~</b>
Chlorobenzene	20.6	μg/kg wet	20.0		103	70-130			
Chloroethane	16.2	μg/kg wet	20.0		81.0	68.8-140			
Chloroform	18.7	μg/kg wet	20.0		93.5	70-130			
Chloromethane	21.2	μg/kg wet	20.0		106	70-130			
2-Chlorotoluene	21.5	μg/kg wet	20.0		108	70-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071721 - SW846 5030 Soil	(high level)								
LCS (5071721-BS1)			Prepared	& Analyze	d: 28-Jul	-05			
4-Chlorotoluene	21.4	μg/kg wet	20.0		107	70-130			
1,2-Dibromo-3-chloropropane	19.8	μg/kg wet	20.0		99.0	70-130			
Dibromochloromethane	13.7	μg/kg wet	20.0		68.5	53.9-173			
1,2-Dibromoethane (EDB)	18.8	μg/kg wet	20.0		94.0	70-130			
Dibromomethane	18.4	μg/kg wet	20.0		92.0	70-130			
1.2-Dichlorobenzene	19.6	μg/kg wet	20.0		98.0	70-130			
1,3-Dichlorobenzene	20.9	μg/kg wet	20.0		104	70-130			
1,4-Dichlorobenzene	19.4	μg/kg wet	20.0		97.0	70-130			
Dichlorodifluoromethane (Freon12)	25.7	μg/kg wet	20.0		128	59.6-150			
1,1-Dichloroethane	18.8	μg/kg wet	20.0		94.0	70-130			
1,2-Dichloroethane	23.2	μg/kg wet	20.0		116	70-130			
1.1-Dichloroethene	16.4	μg/kg wet	20.0		82.0	70-130			
cis-1,2-Dichloroethene	18.5	μg/kg wet	20.0		92.5	70-130			
trans-1,2-Dichloroethene	17.2	μg/kg wet	20.0		86.0	70-130			
1,2-Dichloropropane	18.2	μg/kg wet	20.0		91.0	70-130			
1,3-Dichloropropane	17.6		20.0		88.0	70-130			
	27.2	μg/kg wet			136	70-130			QC-2
2,2-Dichloropropane		μg/kg wet	20.0		111				QC-2
1,1-Dichloropropene	22.2	μg/kg wet	20.0			70-130			
cis-1,3-Dichloropropene	21.9	μg/kg wet	20.0		110	70-130			
trans-1,3-Dichloropropene	23.0	μg/kg wet	20.0		115	70-130			
Ethylbenzene	20.0	μg/kg wet	20.0		100	70-130			
Hexachlorobutadiene	23.9	μg/kg wet	20.0		120	67.9-157			
2-Hexanone (MBK)	21.7	μg/kg wet	20.0		108	70-130			
Isopropylbenzene	20.9	μg/kg wet	20.0		104	70-130			
4-Isopropyltoluene	20.4	μg/kg wet	20.0		102	70-130			
Methyl tert-butyl ether	18.7	μg/kg wet	20.0		93.5	70-130			
4-Methyl-2-pentanone (MIBK)	17.8	μg/kg wet	20.0		89.0	43.9-154			
Methylene chloride	16.2	μg/kg wet	20.0		81.0	70-130			
Naphthalene	17.0	μg/kg wet	20.0		85.0	70-130			
n-Propylbenzene	20.8	μg/kg wet	20.0		104	70-130			
Styrene	20.2	μg/kg wet	20.0		101	70-130			
1,1,1,2-Tetrachloroethane	21.5	μg/kg wet	20.0		108	70-130			
1,1,2,2-Tetrachloroethane	17.1	μg/kg wet	20.0		85.5	70-130			
Tetrachloroethene	20.6	μg/kg wet	20.0		103	70-130			
Toluene	17.3	μg/kg wet	20.0		86.5	70-130			
1,2,3-Trichlorobenzene	20.4	μg/kg wet	20.0		102	70-130			
1,2,4-Trichlorobenzene	20.6	μg/kg wet	20.0		103	70-130			
1,1,1-Trichloroethane	23.7	μg/kg wet	20.0		118	70-130			
1,1,2-Trichloroethane	17.4	μg/kg wet	20.0		87.0	70-130			
Trichloroethene	20.0	μg/kg wet	20.0		100	70-130			
Trichlorofluoromethane (Freon 11)	21.6	μg/kg wet	20.0		108	70-138			
1,2,3-Trichloropropane	18.9	μg/kg wet	20.0		94.5	70-130			
1,2,4-Trimethylbenzene	21.6	μg/kg wet	20.0		108	70-130			
1,3,5-Trimethylbenzene	21.9	μg/kg wet	20.0		110	70-130			
Vinyl chloride	25.6	μg/kg wet	20.0		128	70-130			
m,p-Xylene	40.2	μg/kg wet	40.0		100	70-130			
o-Xylene	21.6	μg/kg wet	20.0		108	70-130			
Surrogate: 4-Bromofluorobenzene	53.0	μg/kg wet	50.0		106	70-130			
Surrogate: Toluene-d8	46.4	μg/kg wet	50.0		92.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	54.2	μg/kg wet	50.0		108	70-130			
Surrogate: Dibromofluoromethane	49.5	μg/kg wet	50.0		99.0	70-130			
LCS Dup (5071721-BSD1)			Prepared of	& Analvze	d: 28-Jul-	05			
Acetone	19.6	μg/kg wet	20.0		98.0	19.4-217	13.3	50	
Acrylonitrile	15.8	μg/kg wet	20.0		79.0	70-130	1.92	25	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071721 - SW846 5030 Soil	(high level)								
LCS Dup (5071721-BSD1)			Prepared	& Analyze	ed: 28-Jul	-05			
Benzene	19.6	μg/kg wet	20.0		98.0	70-130	2.02	25	
Bromobenzene	21.3	μg/kg wet	20.0		106	70-130	0.00	25	
Bromochloromethane	18.0	μg/kg wet	20.0		90.0	70-130	1.65	25	
Bromodichloromethane	22.5	μg/kg wet	20.0		112	70-130	3.51	25	
Bromoform	21.2	μg/kg wet	20.0		106	70-130	3.85	25	
Bromomethane	19.2	μg/kg wet	20.0		96.0	48.6-171	2.06	50	
2-Butanone (MEK)	18.4	μg/kg wet	20.0		92.0	16.5-153	17.8	50	
n-Butylbenzene	19.4	μg/kg wet	20.0		97.0	70-130	3.67	25	
sec-Butylbenzene	21.8	μg/kg wet	20.0		109	70-130	1.85	25	
tert-Butylbenzene	22.6	μg/kg wet	20.0		113	70-130	0.889	25	
Carbon disulfide	12.4	μg/kg wet	20.0		62.0	70-130	1.60	25	QC-2
Carbon tetrachloride	16.3	μg/kg wet	20.0		81.5	70-130	3.02	25	
Chlorobenzene	20.3	μg/kg wet	20.0		102	70-130	0.976	25	
Chloroethane	16.8	μg/kg wet	20.0		84.0	68.8-140	3.64	50	
Chloroform	17.9	μg/kg wet	20.0		89.5	70-130	4.37	25	
Chloromethane	21.2	μg/kg wet	20.0		106	70-130	0.00	25	
2-Chlorotoluene	21.7	μg/kg wet	20.0		108	70-130	0.00	25	
4-Chlorotoluene	21.0	' μg/kg wet	20.0		105	70-130	1.89	25	
1,2-Dibromo-3-chloropropane	20.4	μg/kg wet	20.0		102	70-130	2.99	25	
Dibromochloromethane	13.7	μg/kg wet	20.0		68.5	53.9-173	0.00	50	
1,2-Dibromoethane (EDB)	19.1	μg/kg wet	20.0		95.5	70-130	1.58	25	
Dibromomethane	18.7	μg/kg wet	20.0		93.5	70-130	1.62	25	
1,2-Dichlorobenzene	19.5	μg/kg wet	20.0		97.5	70-130	0.512	25	
1,3-Dichlorobenzene	21.1	μg/kg wet	20.0		106	70-130	1.90	25	
1,4-Dichlorobenzene	19.5	μg/kg wet	20.0		97.5	70-130	0.514	25	
Dichlorodifluoromethane (Freon12)	25.8	μg/kg wet	20.0		129	59.6-150	0.778	50	
1,1-Dichloroethane	18.5	μg/kg wet	20.0		92.5	70-130	1.61	25	
1,2-Dichloroethane	22.6	μg/kg wet	20.0		113	70-130	2.62	25	
1,1-Dichloroethene	16.7	μg/kg wet	20.0		83.5	70-130	1.81	25	
cis-1,2-Dichloroethene	17.8	μg/kg wet	20.0		89.0	70-130	3.86	25	
trans-1,2-Dichloroethene	17.4	μg/kg wet	20.0		87.0	70-130	1.16	25	
1,2-Dichloropropane	17.8	μg/kg wet	20.0		89.0	70-130	2.22	25	
1,3-Dichloropropane	18.4	μg/kg wet	20.0		92.0	70-130	4.44	25	
2,2-Dichloropropane	26.8	μg/kg wet	20.0		134	70-130	1.48	25	QC-2
1,1-Dichloropropene	22.1	μg/kg wet	20.0		110	70-130	0.905	25	
cis-1,3-Dichloropropene	21.6	μg/kg wet	20.0		108	70-130	1.83	25	
trans-1,3-Dichloropropene	22.4	μg/kg wet	20.0		112	70-130	2.64	25	
Ethylbenzene	20.1	μg/kg wet	20.0		100	70-130	0.00	25	
Hexachlorobutadiene	24.6	μg/kg wet	20.0		123	67.9-157	2.47	50	
2-Hexanone (MBK)	18.9	μg/kg wet	20.0		94.5	70-130	13.3	25	
Isopropylbenzene	20.7	μg/kg wet	20.0		104	70-130	0.00	25	
4-Isopropyltoluene	20.7	μg/kg wet	20.0		104	70-130	1.94	25	
Methyl tert-butyl ether	18.8	μg/kg wet	20.0		94.0	70-130	0.533	25	
4-Methyl-2-pentanone (MIBK)	18.0	μg/kg wet	20.0		90.0	43.9-154	1.12	50 25	
Methylene chloride	16.1	μg/kg wet	20.0		80.5	70-130	0.619	25	
Naphthalene	18.2	μg/kg wet	20.0		91.0	70-130	6.82	25 25	
n-Propylbenzene	20.0	μg/kg wet	20.0		100 100	70-130 70-130	3.92 0.995	25 25	
Styrene	20.1 21.2	μg/kg wet	20.0 20.0		106	70-130 70-130	1.87	25 25	
1,1,1,2-Tetrachloroethane		μg/kg wet	20.0		86.0	70-130 70-130	0.583	25	
1,1,2,2-Tetrachloroethane	17.2	μg/kg wet	20.0		86.0 106	70-130 70-130	2.87	25 25	
Tetrachloroethene Tolyana	21.2 17.0	μg/kg wet	20.0		85.0	70-130 70-130	1.75	25 25	
Toluene 1,2,3-Trichlorobenzene	20.7	μg/kg wet μg/kg wet	20.0		104	70-130	1.73	25	
					104	70-130	0.00	25	
1,2,4-Trichlorobenzene	20.6	μg/kg wet	20.0		103	/0-130	V.VV	۷3	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071721 - SW846 5030 Soil (hi	gh level)								
LCS Dup (5071721-BSD1)			Prepared	& Analyze	ed: 28-Jul-	05			
1,1,1-Trichloroethane	23.6	μg/kg wet	20.0		118	70-130	0.00	25	
1,1,2-Trichloroethane	17.1	μg/kg wet	20.0		85.5	70-130	1.74	25	
Trichloroethene	18.7	μg/kg wet	20.0		93.5	70-130	6.72	25	
Trichlorofluoromethane (Freon 11)	21.3	μg/kg wet	20.0		106	70-138	1.87	50	
1,2,3-Trichloropropane	19.8	μg/kg wet	20.0		99.0	70-130	4.65	25	
1,2,4-Trimethylbenzene	22.9	μg/kg wet	20.0		114	70-130	5.41	25	
1,3,5-Trimethylbenzene	22.4	μg/kg wet	20.0		112	70-130	1.80	25	
Vinyl chloride	25.7	μg/kg wet	20.0		128	70-130	0.00	25	
m,p-Xylene	41.6	μg/kg wet	40.0		104	70-130	3.92	25	
o-Xylene	22.0	μg/kg wet	20.0		110	70-130	1.83	25	
Surrogate: 4-Bromofluorobenzene	53.2	μg/kg wet	50.0		106	70-130			
Surrogate: Toluene-d8	46.8	μg/kg wet	50.0		93.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.7	μg/kg wet	50.0		105	70-130			
Surrogate: Dibromofluoromethane	50.4	μg/kg wet	50.0		101	70-130			
Matrix Spike (5071721-MS1)	Sou	rce: SA31398-21	Prepared	& Analyze	d: 28-Jul-	05			
Benzene	18.9	μg/kg dry	20.0	BRL	94.5	70-130	-		
Chlorobenzene	19.3	μg/kg dry	20.0	BRL	96.5	70-130			
1,1-Dichloroethene	16.2	μg/kg dry	20.0	BRL	81.0	70-130			
Toluene	17.5	μg/kg dry	20.0	BRL	87.5	70-130			
Trichloroethene	17.9	μg/kg dry	20.0	BRL	89.5	70-130			
	54.7	μg/kg dry	50.0		109	70-130			
Surrogate: 4-Bromofluorobenzene Surrogate: Toluene-d8	34.7 49.9	μg/kg dry μg/kg dry	50.0		99.8	70-130 70-130			
Surrogate: 1,2-Dichloroethane-d4	49.9 54.9	μg/kg dry μg/kg dry	50.0		110	70-130			
Surrogate: Dibromofluoromethane	49.8	μg/kg dry	50.0		99.6	70-130			
Matrix Spike Dup (5071721-MSD1)		rce: SA31398-21		& Analyze					
Benzene	19.4	μg/kg dry	20.0	· BRL	97.0	70-130	2.61	30	•
Chlorobenzene	21.0	μg/kg dry	20.0	BRL	105	70-130	8.44	30	
1,1-Dichloroethene	15.5	μg/kg dry	20.0	BRL	77.5	70-130	4.42	30	
Toluene	18.7	μg/kg dry	20.0	BRL	93.5	70-130	6.63	30	
Trichloroethene	18.2	μg/kg dry	20.0	BRL	91.0	70-130	1.66	30	
Surrogate: 4-Bromofluorobenzene	53.5	μg/kg dry	50.0		107	70-130			
Surrogate: Toluene-d8	50.4	μg/kg dry	50.0		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.4	μg/kg dry	50.0		101	70-130			
Surrogate: Dibromofluoromethane	48.9	μg/kg dry	50.0		97.8	70-130			
Batch 5071804 - SW846 5030 Soil (hi		F-6·57							
•	B		Prepared	& Analyze	d: 20_Iul_	05			
Blank (5071804-BLK1)	BRL	20.0 μg/kg wet	Trepared	& Allalyze	.u. 27-Jul-	0,5			
Acetone	BRL	20.0 μg/kg wet				•			
Acrylonitrile Benzene	BRL	1.0 μg/kg wet							
Bromobenzene	BRL	1.0 μg/kg wet							
Bromochloromethane	BRL	1.0 μg/kg wet							
Bromodichloromethane	BRL	1.0 µg/kg wet							
Bromoform	BRL	1.0 µg/kg wet							
Bromomethane	BRL	2.0 µg/kg wet							
2-Butanone (MEK)	BRL	10.0 μg/kg wet							
n-Butylbenzene	BRL	1.0 μg/kg wet							
sec-Butylbenzene	BRL	1.0 μg/kg wet							
tert-Butylbenzene	BRL	1.0 μg/kg wet							
Carbon disulfide	BRL	5.0 μg/kg wet							
Carbon tetrachloride	BRL	1.0 μg/kg wet							
	BRL BRL	1.0 μg/kg wet 1.0 μg/kg wet							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071804 - SW846 5030 Soil	(high level)	•							
Blank (5071804-BLK1)			Prepared	& Analyze	d: 29-Jul-	05			
Chloroform	BRL	1.0 μg/kg wet							
Chloromethane	BRL	2.0 μg/kg wet							
2-Chlorotoluene	BRL	1.0 μg/kg wet							
4-Chlorotoluene	BRL	1.0 μg/kg wet							
1,2-Dibromo-3-chloropropane	BRL	2.0 μg/kg wet							
Dibromochloromethane	BRL	1.0 μg/kg wet							
1,2-Dibromoethane (EDB)	BRL	1.0 μg/kg wet							
Dibromomethane	BRL	1.0 μg/kg wet							
1,2-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,3-Dichlorobenzene	BRL	1.0 μg/kg wet							
1,4-Dichlorobenzene	BRL	1.0 μg/kg wet							
Dichlorodifluoromethane (Freon12)	BRL	2.0 µg/kg wet							
1,1-Dichloroethane	BRL	1.0 μg/kg wet							
1,2-Dichloroethane	BRL	1.0 μg/kg wet							
1,1-Dichloroethene	BRL	1.0 μg/kg wet							
cis-1,2-Dichloroethene	BRL	1.0 μg/kg wet							
trans-1,2-Dichloroethene	BRL	1.0 μg/kg wet							
1,2-Dichloropropane	BRL	1.0 μg/kg wet							
1,3-Dichloropropane	BRL	1.0 μg/kg wet							
2,2-Dichloropropane	BRL	1.0 μg/kg wet							
1,1-Dichloropropene	BRL	1.0 μg/kg wet							
cis-1,3-Dichloropropene	BRL	1.0 μg/kg wet							
trans-1,3-Dichloropropene	BRL	1.0 μg/kg wet							
Ethylbenzene	BRL	1.0 μg/kg wet							
Hexachlorobutadiene	BRL	1.0 μg/kg wet							
2-Hexanone (MBK)	BRL	10.0 μg/kg wet							
Isopropylbenzene	BRL	1.0 μg/kg wet							
4-Isopropyltoluene	BRL	1.0 µg/kg wet							
Methyl tert-butyl ether	BRL	1.0 μg/kg wet							
4-Methyl-2-pentanone (MIBK)	BRL	10.0 μg/kg wet							
Methylene chloride	BRL	10.0 μg/kg wet							
Naphthalene	BRL	1.0 μg/kg wet		*					
n-Propylbenzene	BRL	1.0 μg/kg wet							
Styrene	BRL	1.0 µg/kg wet							
1,1,1,2-Tetrachloroethane	BRL	1.0 µg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	1.0 µg/kg wet							
Tetrachloroethene	BRL	1.0 µg/kg wet							
Toluene	BRL	1.0 μg/kg wet							
1,2,3-Trichlorobenzene	BRL	1.0 μg/kg wet							
1,2,4-Trichlorobenzene	BRL	1.0 μg/kg wet							
1,1,1-Trichloroethane	BRL	1.0 μg/kg wet							
1,1,2-Trichloroethane	BRL	1.0 μg/kg wet							
Trichloroethene	BRL	1.0 μg/kg wet							
Trichlorofluoromethane (Freon 11)	BRL	1.0 μg/kg wet							
1,2,3-Trichloropropane	BRL	1.0 μg/kg wet							
1,2,4-Trimethylbenzene	BRL	1.0 μg/kg wet							
1,3,5-Trimethylbenzene	BRL	1.0 μg/kg wet							
Vinyl chloride	BRL	1.0 μg/kg wet							
m,p-Xylene	BRL	2.0 μg/kg wet							
o-Xylene	BRL	1.0 μg/kg wet	50.0		00.0	70 /20			
Surrogate: 4-Bromofluorobenzene	49.9	μg/kg wet	50.0		99.8	70-130			
Surrogate: Toluene-d8	47.8	μg/kg wet	50.0		95.6 99.0	70-130 70-130			
Surrogate: 1,2-Dichloroethane-d4	49.5	μg/kg wet	50.0		99.0 94.0	70-130 70-130			
Surrogate: Dibromofluoromethane	47.0	μg/kg wet	50.0		74.U	/0-150			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071804 - SW846 5030 Soil	(high level)								
LCS (5071804-BS1)			Prepared	& Analyze	d: 29-Jul-	-05			
Acetone	18.0	μg/kg wet	20.0		90.0	19.4-217			
Acrylonitrile	18.2	μg/kg wet	20.0		91.0	70-130			
Benzene	19.7	μg/kg wet	20.0		98.5	70-130			
Bromobenzene	20.5	μg/kg wet	20.0		102	70-130			
Bromochloromethane	20.0	μg/kg wet	20.0		100	70-130			
Bromodichloromethane	20.5	μg/kg wet	20.0		102	70-130			
Bromoform	18.3	μg/kg wet	20.0		91.5	70-130			
Bromomethane	23.5	μg/kg wet	20.0		118	48.6-171			
2-Butanone (MEK)	19.4	μg/kg wet	20.0		97.0	16.5-153			
n-Butylbenzene	20.0	μg/kg wet	20.0		100	70-130			
sec-Butylbenzene	20.2	μg/kg wet	20.0		101	70-130			
tert-Butylbenzene	20.0	μg/kg wet	20.0		100	70-130			
Carbon disulfide	19.1	μg/kg wet	20.0		95.5	70-130			
Carbon tetrachloride	18.6	μg/kg wet	20.0		93.0	70-130			
Chlorobenzene	19.9	μg/kg wet	20.0		99.5	70-130			
Chloroethane	21.2	μg/kg wet	20.0		106	68.8-140			
Chloroform	19.6	μg/kg wet	20.0		98.0	70-130			
Chloromethane	23.4	μg/kg wet	20.0		117	70-130			
2-Chlorotoluene	19.8	μg/kg wet	20.0		99.0	70-130			
4-Chlorotoluene	19.7	μg/kg wet	20.0		98.5	70-130			
1,2-Dibromo-3-chloropropane	17.2	μg/kg wet	20.0		86.0	70-130			
Dibromochloromethane	19.2	μg/kg wet	20.0		96.0	53.9-173			
1,2-Dibromoethane (EDB)	19.4	μg/kg wet	20.0		97.0	70-130			
Dibromomethane	20.2	μg/kg wet	20.0		101	70-130			
1,2-Dichlorobenzene	21.2	μg/kg wet	20.0		106	70-130			
1,3-Dichlorobenzene	21.0	μg/kg wet	20.0	,	105	70-130			
1,4-Dichlorobenzene	21.0	μg/kg wet	20.0		105	70-130			
Dichlorodifluoromethane (Freon12)	27.4	μg/kg wet	20.0		137	59.6-150			
1,1-Dichloroethane	19.5	μg/kg wet	20.0		97.5	70-130			
1,2-Dichloroethane	19.6	μg/kg wet	20.0		98.0	70-130			
1,1-Dichloroethene	19.3	μg/kg wet	20.0		96.5	70-130			
cis-1,2-Dichloroethene	20.3	μg/kg wet	20.0		102	70-130			
trans-1,2-Dichloroethene	19.2	μg/kg wet	20.0		96.0	70-130			
1,2-Dichloropropane	20.4	μg/kg wet	20.0		102	70-130			
1,3-Dichloropropane	20.6	μg/kg wet	20.0		103	70-130			
2,2-Dichloropropane	24.0	μg/kg wet	20.0		120	70-130			
1,1-Dichloropropene	20.5	μg/kg wet	20.0		102	70-130			
cis-1,3-Dichloropropene	20.8	μg/kg wet	20.0		104	70-130			
trans-1,3-Dichloropropene	21.0	μg/kg wet	20.0		105	70-130			
Ethylbenzene	19.4	μg/kg wet	20.0		97.0	70-130			
Hexachlorobutadiene	21.5	μg/kg wet	20.0		108	67.9-157			
2-Hexanone (MBK)	23.3	μg/kg wet	20.0		116	70-130			
Isopropylbenzene	18.8	μg/kg wet	20.0		94.0	70-130			
4-Isopropyltoluene	21.1	μg/kg wet	20.0		106	70-130			
Methyl tert-butyl ether	20.0	μg/kg wet	20.0		100	70-130			
4-Methyl-2-pentanone (MIBK)	16.1	μg/kg wet	20.0		80.5 105	43.9-154 70-130			
Methylene chloride	21.0	μg/kg wet	20.0		103	70-130 70-130			
Naphthalene	20.2	μg/kg wet	20.0		98.0	70-130 70-130			
n-Propylbenzene	19.6	μg/kg wet	20.0		98.0 96.5	70-130 70-130			
Styrene	19.3	μg/kg wet	20.0 20.0		96.3 102	70-130 70-130			
1,1,2-Tetrachloroethane	20.4	μg/kg wet			102	70-130 70-130			
1,1,2,2-Tetrachloroethane	20.7	μg/kg wet	20.0		104	70-130 70-130			
Tetrachloroethene	20.3	μg/kg wet	20.0		96.5	70-130 70-130			
Toluene	19.3	μg/kg wet	20.0		30.3	/0-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071804 - SW846 5030 Soil	(high level)			<u></u>					
LCS (5071804-BS1)			Prepared	& Analyze	ed: 29-Jul	-05			
1,2,3-Trichlorobenzene	20.8	μg/kg wet	20.0		104	70-130			
1,2,4-Trichlorobenzene	20.6	μg/kg wet	20.0		103	70-130			
1,1,1-Trichloroethane	19.4	μg/kg wet	20.0		97.0	70-130			
1,1,2-Trichloroethane	20.5	μg/kg wet	20.0		102	70-130			
Trichloroethene	18.4	μg/kg wet	20.0		92.0	70-130			
Trichlorofluoromethane (Freon 11)	20.9	μg/kg wet	20.0		104	70-138			
1,2,3-Trichloropropane	19.6	μg/kg wet	20.0		98.0	70-130			
1,2,4-Trimethylbenzene	19.6	μg/kg wet	20.0		98.0	70-130			
1,3,5-Trimethylbenzene	19.4	μg/kg wet	20.0		97.0	70-130			
Vinyl chloride	23.5	μg/kg wet	20.0		118	70-130			
m,p-Xylene	40.8	μg/kg wet	40.0		102	70-130			
o-Xylene	20.0	μg/kg wet	20.0		100	70-130			
Surrogate: 4-Bromofluorobenzene	48.4	μg/kg wet	50.0		96.8	70-130			
Surrogate: Toluene-d8	47.6	μg/kg wet	50.0		95.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.0	μg/kg wet	50.0		102	70-130			
Surrogate: Dibromofluoromethane	48.7	μg/kg wet	50.0		97.4	70-130			
LCS Dup (5071804-BSD1)			Prepared	& Analyze	d: 29-Jul	-05			
Acetone	21.2	μg/kg wet	20.0	<u> </u>	106	19.4-217	16.3	50	
Acrylonitrile	17.7	μg/kg wet	20.0		88.5	70-130	2.79	25	
Benzene	20.0	μg/kg wet	20.0		100	70-130	1.51	25	
Bromobenzene	21.7	μg/kg wet	20.0		108	70-130	5.71	25	
Bromochloromethane	20.7	μg/kg wet	20.0		104	70-130	3.92	25	
Bromodichloromethane	20.4	μg/kg wet	20.0		102	70-130	0.00	25	
Bromoform	18.8	μg/kg wet	20.0		94.0	70-130	2.70	25	
Bromomethane	23.2	μg/kg wet	20.0		116	48.6-171	1.71	50	
2-Butanone (MEK)	14.1	μg/kg wet	20.0		70.5	16.5-153	31.6	50	
n-Butylbenzene	21.3	μg/kg wet	20.0		106	70-130	5.83	25	
sec-Butylbenzene	21.7	μg/kg wet	20.0		108	70-130	6.70	25	
tert-Butylbenzene	21.8	μg/kg wet	20.0		109	70-130	8.61	25	
Carbon disulfide	19.7	μg/kg wet	20.0		98.5	70-130	3.09	25	
Carbon tetrachloride	18.9	μg/kg wet	20.0		94.5	70-130	1.60	25	
Chlorobenzene	21.2	μg/kg wet	20.0		106	70-130	6.33	25	
Chloroethane	21.8	μg/kg wet	20.0		109	68.8-140	2.79	50	
Chloroform	19.7	μg/kg wet	20.0		98.5	70-130	0.509	25	
Chloromethane	25.0	μg/kg wet	20.0		125	70-130	6.61	25	
2-Chlorotoluene	21.5	μg/kg wet	20.0		108	70-130	8.70	25	
4-Chlorotoluene	21.2	μg/kg wet	20.0		106	70-130	7.33	25	
1,2-Dibromo-3-chloropropane	17.9	μg/kg wet	20.0		89.5	70-130	3.99	25	
Dibromochloromethane	19.8	μg/kg wet	20.0		99.0	53.9-173	3.08	50	
1,2-Dibromoethane (EDB)	19.8	μg/kg wet	20.0		99.0	70-130	2.04	25	
Dibromomethane	19.4	μg/kg wet	20.0		97.0	70-130	4.04	25	
1,2-Dichlorobenzene	21.4	μg/kg wet	20.0		107	70-130	0.939	25	
1,3-Dichlorobenzene	22.8	μg/kg wet	20.0		114	70-130	8.22	25	
1,4-Dichlorobenzene	21.9	μg/kg wet	20.0		110	70-130	4.65	25	
Dichlorodifluoromethane (Freon12)	28.3	μg/kg wet	20.0		142	59.6-150	3.58	50	
1,1-Dichloroethane	20.1	μg/kg wet	20.0		100	70-130	2.53	25	
1,2-Dichloroethane	19.9	μg/kg wet	20.0		99.5	70-130	1.52	25 25	
1,1-Dichloroethene	19.4	.μg/kg wet	20.0		97.0	70-130	0.517	25 25	
cis-1,2-Dichloroethene	20.0	μg/kg wet	20.0		100	70-130	1.98	25 25	
trans-1,2-Dichloroethene	20.0	μg/kg wet	20.0		100 103	70-130 70-130	4.08 0.976	25 25	
1,2-Dichloropropane	20.6	μg/kg wet	20.0 20.0		103	70-130 70-130	0.976	25 25	
1,3-Dichloropropane	20.3 24.3	μg/kg wet	20.0		102	70-130	1.65	25	
2,2-Dichloropropane 1,1-Dichloropropene	24.3 20.7	μg/kg wet μg/kg wet	20.0		104	70-130	1.03	25	

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071804 - SW846 5030 Soil	(high level)							.,	
LCS Dup (5071804-BSD1)			Prepared	& Analyze	ed: 29-Jul-	-05			
cis-1,3-Dichloropropene	20.9	μg/kg wet	20.0		104	70-130	0.00	25	
trans-1,3-Dichloropropene	21.0	μg/kg wet	20.0		105	70-130	0.00	25	
Ethylbenzene	21.0	μg/kg wet	20.0		105	70-130	7.92	25	
Hexachlorobutadiene	22.9	μg/kg wet	20.0		114	67.9-157	5.41	50	
2-Hexanone (MBK)	26.5	μg/kg wet	20.0		132	70-130	12.9	25	QC-1
Isopropylbenzene	20.2	μg/kg wet	20.0		101	70-130	7.18	25	
4-Isopropyltoluene	22.5	μg/kg wet	20.0		112	70-130	5.50	25	
Methyl tert-butyl ether	19.8	μg/kg wet	20.0		99.0	70-130	1.01	25	
4-Methyl-2-pentanone (MIBK)	16.5	μg/kg wet	20.0		82.5	43.9-154	2.45	50	
Methylene chloride	21.4	μg/kg wet	20.0		107	70-130	1.89	25	
Naphthalene	20.5	μg/kg wet	20.0		102	70-130	0.985	25	
n-Propylbenzene	21.3	μg/kg wet	20.0		106	70-130	7.84	25	
Styrene	20.9	μg/kg wet	20.0		104	70-130	7.48	25	
1,1,1,2-Tetrachloroethane	20.8	μg/kg wet	20.0		104	70-130	1.94	25	
1,1,2,2-Tetrachloroethane	21.1	μg/kg wet	20.0		106	70-130	1.90	25	
Tetrachloroethene	21.2	μg/kg wet	20.0		106	70-130	3.85	25	
Toluene	20.1	μg/kg wet	20.0		100	70-130	3.56	25	
1,2,3-Trichlorobenzene	21.6	μg/kg wet	20.0		108	70-130	3.77	25	
1,2,4-Trichlorobenzene	21.2	μg/kg wet	20.0		106	70-130	2.87	25	
1,1,1-Trichloroethane	19.6	μg/kg wet	20.0		98.0	70-130	1.03	25	
1,1,2-Trichloroethane	21.1	μg/kg wet	20.0		106	70-130	3.85	25	
Trichloroethene	19.7	μg/kg wet	20.0		98.5	70-130	6.82	25	
Trichlorofluoromethane (Freon 11)	20.7	μg/kg wet	20.0		104	70-138	0.00	50	
1,2,3-Trichloropropane	19.9	μg/kg wet	20.0		99.5	70-130	1.52	25	
1,2,4-Trimethylbenzene	21.0	μg/kg wet	20.0		105	70-130	6.90	25	
1,3,5-Trimethylbenzene	21.1	μg/kg wet	20.0		106	70-130	8.87	25	
Vinyl chloride	21.5	μg/kg wet	20.0		108	70-130	8.85	25	
m,p-Xylene	44.2	μg/kg wet	40.0		110	70-130	7.55	25	
o-Xylene	21.8	μg/kg wet	20.0		109	70-130	8.61	25	
Surrogate: 4-Bromofluorobenzene	50.6	μg/kg wet	50.0		101	70-130			
Surrogate: Toluene-d8	49.0	μg/kg wet	50.0		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	49.8	μg/kg wet	50.0		99.6	70-130			
Surrogate: Dibromofluoromethane	48.3	μg/kg wet	50.0		96.6	70-130			
Matrix Spike (5071804-MS1)	Sour	ce: SA31539-11	Prepared	& Analyze	d: 29-Jul-	-05			
Benzene	19.4	μg/kg dry	20.0	BRL	97.0	70-130			
Chlorobenzene	20.3	μg/kg dry	20.0	BRL	102	70-130			
1,1-Dichloroethene	19.5	μg/kg dry	20.0	BRL	97.5	70-130			
Toluene	20.3	μg/kg dry	20.0	0.684	98.1	70-130			
Trichloroethene	19.6	μg/kg dry	20.0	BRL	98.0	70-130			
Surrogate: 4-Bromofluorobenzene	50.5	μg/kg dry	50.0		101	70-130			
Surrogate: Toluene-d8	48.3	μg/kg dry	50.0		96.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.7	μg/kg dry	50.0		103	70-130			
Surrogate: Dibromofluoromethane	49.1	μg/kg dry	50.0		98.2	70-130			
Matrix Spike (5071804-MS2)	Sour	ce: SA31539-12	Prepared	& Analyze	d: 29-Jul-	-05			
Benzene	20.8	μg/kg dry	20.0	BRL	104	70-130			
Chlorobenzene	21.5	μg/kg dry	20.0	BRL	108	70-130			
1,1-Dichloroethene	21.7	μg/kg dry	20.0	BRL	108	70-130			
Toluene	21.9	μg/kg dry	20.0	0.845	105	70-130			
Trichloroethene	19.6	μg/kg dry	20.0	BRL	98.0	70-130			
Surrogate: 4-Bromofluorobenzene	48.6	μg/kg dry	50.0		97.2	70-130			
Surrogate: Toluene-d8	48.9	μg/kg dry	50.0		97.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.5	μg/kg dry	50.0		105	70-130			
Surrogate: Dibromofluoromethane	50.4	μg/kg dry	50.0		101	70-130			

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071804 - SW846 5030 Soil (hi	igh level)		<u>.</u>						
Matrix Spike Dup (5071804-MSD1)	Sou	rce: SA31539-11	Prepared						
Benzene	20.0	μg/kg dry	20.0	BRL	100	70-130	3.05	30	
Chlorobenzene	20.9	μg/kg dry	20.0	BRL	104	70-130	1.94	30	
1,1-Dichloroethene	20.0	μg/kg dry	20.0	BRL	100	70-130	2.53	30	
Toluene	21.2	μg/kg dry	20.0	0.684	103	70-130	4.87	30	
Trichloroethene	20.2	μg/kg dry	20.0	BRL	101	70-130	3.02	30	
Surrogate: 4-Bromofluorobenzene	50.4	μg/kg dry	50.0		101	70-130			
Surrogate: Toluene-d8	49.6	μg/kg dry	50.0		99.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.1	μg/kg dry	50.0		104	70-130			
Surrogate: Dibromofluoromethane	49.7	μg/kg dry	50.0		99.4	70-130			
Matrix Spike Dup (5071804-MSD2)	Sou	rce: SA31539-12	Prepared	& Analyze	ed: 29-Jul-	-05			
Benzene	19.6	μg/kg dry	20.0	BRL	98.0	70-130	5.94	30	-
Chlorobenzene	20.4	μg/kg dry	20.0	BRL	102	70-130	5.71	30	
1,1-Dichloroethene	19.0	μg/kg dry	20.0	BRL	95.0	70-130	12.8	30	
Toluene	21.1	μg/kg dry	20.0	0.845	101	70-130	3.88	30	
Trichloroethene	19.1	μg/kg dry	20.0	BRL	95.5	70-130	2.58	30	
Surrogate: 4-Bromofluorobenzene	49.5	μg/kg dry	50.0		99.0	70-130			
Surrogate: Toluene-d8	49.3	μg/kg dry	50.0		98.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.6	μg/kg dry	50.0		101	70-130			
Surrogate: Dibromofluoromethane	47.8	μg/kg dry	50.0		95.6	70-130			
_	ractable Pet	roleum Hydroca		Quality (	Control				
				•					
Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071700 - SW846 3545A			<del></del>						
Blank (5071700-BLK1)			Prepared:	28-Jul-05	Analyzed	l: 01-Aug-(	)5		
Fuel Oil #2	BRL	13.3 mg/kg wet							
Fuel Oil #4	BRL	13.3 mg/kg wet							
Fuel Oil #6	BRL	13.3 mg/kg wet							
Motor Oil	BRL	13.3 mg/kg wet							
Aviation Fuel	BRL	13.3 mg/kg wet							
Unidentified	BRL	13.3 mg/kg wet							
Other Oil	BRL	13.3 mg/kg wet							
Diesel Range Organics (DRO)	BRL	13.3 mg/kg wet							
Surrogate: 1-Chlorooctadecane	1.80	mg/kg wet	3.33		54.1	40-140			
LCS (5071700-BS1)			Prepared:	28-Jul-05	Analyzed	: 01-Aug-0	)5		
Fuel Oil #2	623	13.3 mg/kg wet	667		93.4	40-140			
Surrogate: 1-Chlorooctadecane	6.57	mg/kg wet	3.33		197	40-140			S-0
<b>Duplicate (5071700-DUP1)</b>	Sou	rce: SA31301-01	Prepared:	28-Jul-05	Analyzed	: 01-Aug-0	)5		
Fuel Oil #2	6520	27.1 mg/kg dry	•	6380			2.17	50	
Fuel Oil #4	BRL	27.1 mg/kg dry		BRL				50	
Fuel Oil #6	BRL	27.1 mg/kg dry		BRL				50	
Motor Oil	BRL	27.1 mg/kg dry		BRL				50	
Aviation Fuel	BRL	27.1 mg/kg dry		BRL				50	
Unidentified	BRL	27.1 mg/kg dry		BRL				50	
Other Oil	BRL	27.1 mg/kg dry		BRL				50	
Diesel Range Organics (DRO)	6520	27.1 mg/kg dry		6380			2.17	50	
Surrogate: 1-Chlorooctadecane	76.6	mg/kg dry	3.39		NR	40-140			S-0

## **General Chemistry Parameters - Quality Control**

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5071771 - General Preparation									
Duplicate (5071771-DUP1)	Sou	rce: SA31618-02	Prepared	& Analyze					
% Solids	89.3	%		89.2			0.112	20	
Batch 5071795 - General Preparation									
Duplicate (5071795-DUP1)	Sou	rce: SA31622-08	Prepared	& Analyze	d: 29-Jul	-05			
% Solids	93.5	%		93.8			0.320	20	
Batch 5080235 - General Preparation									
Blank (5080235-BLK1)			Prepared	& Analyze	ed: 02-Au	g-05			
Fractional Organic Carbon	BRL	100 N/A							
Blank (5080235-BLK2)			Prepared	& Analyze	d: 02-Au	g-05			
Fractional Organic Carbon	BRL	100 N/A							
Duplicate (5080235-DUP1)	Sou	rce: SA31364-01	Prepared	& Analyze	g-05				
Fractional Organic Carbon	0.0039	0.0001 N/A		0.0039			0.00	30	<u></u>
Reference (5080235-SRM1)			Prepared	& Analyze	d: 02-Au	g-05			
Fractional Organic Carbon	5200	100 N/A	5370		96.8	56-144			
Reference (5080235-SRM2)			Prepared & Analyzed: 02-Aug-05						
Fractional Organic Carbon	1090	100 N/A	1000		109	85-115			
Reference (5080235-SRM3)			Prepared	& Analyze	d: 02-Au	g-05			
Fractional Organic Carbon	1050	100 N/A	1000		105	85-115			

### **Notes and Definitions**

*TPH	Calculated as
QC-1	Analyte out of acceptance range.
QC-2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
vext2	Field extracted
VOCI	O The VOC field preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 methods 5030 and 5035 but may be within the 1:1 volume to volume ratio.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

### Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.

Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel

Fuel Oil #4 - includes #4 fuel oil

Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil

Motor Oil - includes virgin and waste automobile oil

Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha

Aviation Fuel - includes kerosene, Jet A and JP-4

Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as \*TPH (Calculated as).

<u>Laboratory Control Sample (LCS)</u>: A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

<u>Surrogate</u>: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and

Validated by: Hanibal C. Tayeh, Ph.D. Nicole Brown

Report To: ECS-Richmond	SPECTRUM ANALYTICAL, INC.  Featuring HANIBAL TECHNOLOGY
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Project Mgr.:

P.O. No.: (3)

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Sampler(s): Location: \_

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# AIN OF CUSTODY RECORD

Invoice To: \_ ECS- Aggwan Page \_\_\_ h of h

Site Name: S21

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3.0:3	t9th0t-%	otherwise instructed.	· Samples disposed of after 60 days unless	Min. 24-hour notification needed for rushes.	· All TATs subject to laboratory approval

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Condition upo	EDD Format	☐ E-mail to	K Fax result		< 70	1 69	\$O	9	Qo	93	Ş	\$	2	J81365 D1	Lab Id:		X1=	DW=Drinkin	1=Na <sub>2</sub> S2O <sub>3</sub> 7=CH <sub>3</sub> OH
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Report To: \_

# CHAIN OF CUSTODY RECORD

Invoice To: \_

Site Name: SZI Ray St

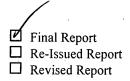
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	Project No.: 08-204 262							
•	204 266	otherwise instructed.	· Samples disposed of after 60 days unless	Min. 24-hour notification needed for rushes.	· All TATs subject to laboratory approval	☐ Rush TAT - Date Needed:	☐ Standard TAT - 7 to 10 business days	Special Handling:

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Condition upon	EDD Format	E-mail to	Fax results				R	Ĉ	(3	وا	1865-11	Lab Id:		X1=	DW=Drinking Water O=Oil SW= Surface	1=Na <sub>2</sub> S2O <sub>3</sub> 2 7=CH <sub>3</sub> OH 8:	Project Mgr.:	
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	7/21/pst 84		Date: Time:									as per MADEP CAM Section 2.0?  Yes No  Response required for CAM report)	☐ Provide MCP CAM Report Were all field OC requirements met		State specific reporting standards If applicable, please list below.	QA Reporting Notes: (check if needed)		State:
ļ			$oldsymbol{\perp} oldsymbol{/}$									c ~	<b>∸</b>					

Report Date: 15-Aug-05 11:54





# HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services 65 Millet Street; Suite 301

Richmond, VT 05477 Attn: Ronald Miller Project: Northern Petroleum-St Johnsbury, VT

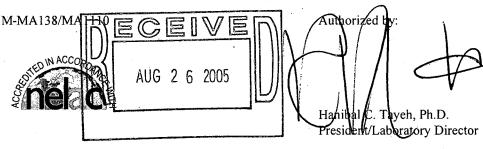
Project #: 08-204262

	····			
Laboratory ID	Client Sample ID	<u>Matrix</u>	Date Sampled	Date Received
SA31998-01	Blank	Ground Water	29-Jul-05 07:45	02-Aug-05 09:50
SA31998-02	MW-1	Ground Water	29-Jul-05 13:55	02-Aug-05 09:50
SA31998-03	MW-2 ECS	Ground Water	29-Jul-05 14:00	02-Aug-05 09:50
SA31998-04	MW-4	Ground Water	29-Jul-05 00:00	02-Aug-05 09:50
SA31998-05	MW-5	Ground Water	29-Jul-05 14:40	02-Aug-05 09:50
SA31998-06	MW-7	Product	29-Jul-05 14:05	02-Aug-05 09:50
SA31998-07	MW-8	Ground Water	29-Jul-05 14:30	02-Aug-05 09:50
SA31998-08	MW-11	Ground Water	29-Jul-05 14:35	02-Aug-05 09:50
SA31998-09	MW-12	Ground Water	29-Jul-05 14:30	02-Aug-05 09:50
SA31998-10	MW-13	Ground Water	29-Jul-05 14:25	02-Aug-05 09:50
SA31998-11	MW-16	Ground Water	29-Jul-05 13:20	02-Aug-05 09:50
SA31998-12	MW-17	Product	29-Jul-05 11:45	02-Aug-05 09:50
SA31998-13	MW-18	Ground Water	29-Jul-05 13:35	02-Aug-05 09:50
SA31998-14	MW-19	Product	29-Jul-05 12:55	02-Aug-05 09:50
SA31998-15	MW-22	Ground Water	29-Jul-05 13:45	02-Aug-05 09:50
SA31998-16	Duplicate	Ground Water	29-Jul-05 13:20	02-Aug-05 09:50
SA31998-17	MW-2	Ground Water	29-Jul-05 15:00	02-Aug-05 09:50
SA31998-18	MW-101	Ground Water	29-Jul-05 14:50	02-Aug-05 09:50
SA31998-19	MW-1R	Ground Water	29-Jul-05 14:40	02-Aug-05 09:50
	,			

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met. Please note that this report contains 26 pages of analytical data plus Chain of Custody documen(s).

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Massachusetts Certification # M-MA138/MA Connecticut # PH-0777 Florida # E87600/E87936 Maine # MA138 New Hampshire # 2538/2972 New York # 11393/11840 Rhode Island # 98 USDA # S-51435 Vermont # VT-11393



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### ENVIRONMENTAL ANALYSES

Matrix Ground Water Collection Date/Time 29-Jul-05 07:45 Received 02-Aug-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst Fla
Volatile	Organic Compounds								
<u>Volatile</u>	Organic Compounds by 82	<u>260B</u>	Prepared by me	thod Vola	tiles				
71-43-2	Benzene	BRL	1.0 μg/l	1	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	"	"	"	"	**
1634-04-4	Methyl tert-butyl ether	BRL	1.0 μg/l	1	n	**	**	**	. и
91-20-3	Naphthalene	BRL	1.0 μg/l	1	"	**	**	n	"
108-88-3	Toluene	BRL	1.0 μg/l	1	"	**	"	n	"
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 μg/l	1	11	H	**	"	u
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 μg/l	1	n	"	"	n	***
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	n	"	"	n	n
95-47-6	o-Xylene	BRL	1.0 μg/l	1	n	'n	"	11	II .
Surrogate	recoveries:								
460-00-4	4-Bromofluorobenzene	93.4	70-130 %			н	"	n	11
2037-26-5	Toluene-d8	97.6	70-130 %		"	"	n	11	II
17060-07-0	1,2-Dichloroethane-d4	106	70-130 %		n	11	**	"	11
1868-53-7	Dibromofluoromethane	91.6	70-130 %		"	11	11	**	11

Matrix Ground Water Collection Date/Time 29-Jul-05 13:55

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	1,060	50.0 μg/l	50	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	1,560	50.0 μg/l	- 50	"	**	н	n	**	
1634-04-4	Methyl tert-butyl ether	6,980	50.0 μg/l	50	n	11	n	11	**	
91-20-3	Naphthalene	632	50.0 μg/l	50		**	**	Ħ	"	
108-88-3	Toluene	433	50.0 μg/l	50	n	н ,	"	Ħ	"	
95-63-6	1,2,4-Trimethylbenzene	1,830	50.0 μg/l	50	tt	**	**	ıı	**	
108-67-8	1,3,5-Trimethylbenzene	507	50.0 μg/l	50	ti.	**	**	H	**	
1330-20-7	m,p-Xylene	6,120	100 μg/l	50	11	**	"	11	"	
95-47-6	o-Xylene	800	50.0 μg/l	50	**	"	"	n	"	
Surrogate	recoveries:								•	
460-00-4	4-Bromofluorobenzene	95.0	70-130 %		**	Ħ	U	**	"	
2037-26-5	Toluene-d8	97.4	70-130 %		11	11	U	n	**	
17060-07-0	1,2-Dichloroethane-d4	107	70-130 %		11	11	н	n	**	
1868-53-7	Dibromofluoromethane	93.8	70-130 %		11	11	"	ri	11	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	II.	"	11	11	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	Ħ	"	17	n	Ħ	
M09800000	Motor Oil	BRL	0.2 mg/l	1	ti	U	U		"	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	**	"	**	H	11	
	Unidentified	6.8	0.2 mg/l	1	11	"	*1	11	11	
	Other Oil	Calculated as	0.2 mg/l	1	11	11	11	"	n	
	Diesel Range Organics (DRO)	6.8	0.2 mg/l	1	n	11	11	**	"	
Surrogate	e recoveries:		- United States			,				
3386-33-2	1-Chlorooctadecane	135	40-140 %		"	11	U	u	11	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile -	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	827	50.0 μg/l	50	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	398	50.0 μg/l	50	n	"	"	n	11	
1634-04-4	Methyl tert-butyl ether	2,110	50.0 μg/l	50	11	"	n	11	**	
91-20-3	Naphthalene	304	50.0 μg/l	50	"	"	n	11	**	
108-88-3	Toluene	93.0	50.0 μg/l	50	U	17	n	11	17	
95-63-6	1,2,4-Trimethylbenzene	416	50.0 μg/l	50	II	**	"	u	"	
108-67-8	1,3,5-Trimethylbenzene	136	50.0 μg/l	50	n	11	n	"	n	
1330-20-7	m,p-Xylene	1,420	100 μg/l	50	n	"	"	n	n	
95-47-6	o-Xylene	BRL	50.0 μg/l	50	tt	**	H	11	11	
Surrogate	recoveries:									
160-00-4	4-Bromofluorobenzene	97.6	70-130 %		II.	"	H	"	11	
2037-26-5	Toluene-d8	100	70-130 %		II .	n	11	"	H	
17060-07-0	1,2-Dichloroethane-d4	125	70-130 %		ii.	11	11	"	11	
1868-53-7	Dibromofluoromethane	102	70-130 %		H	"	**	,,	If	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
58476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	n	"	19	"	19	
58553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	11	**	P	11	17	
M09800000	Motor Oil	BRL	0.2 mg/l	1	II	**	"	n	Ħ	
100100000	Aviation Fuel	BRL	0.2 mg/l	1	н	"	11	11	11	
	Unidentified	13.2	0.2 mg/l	1	, 4	**	11	11	n	
	Other Oil	Calculated as	0.2 mg/l	1	"	"	n	"	"	
	Diesel Range Organics (DRO)	13.2	0.2 mg/l	1	ŧi	"	H	*1	11	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	123	40-140 %		ti	**		**	n	

Matrix Ground Water Collection Date/Time 29-Jul-05 00:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<i>Volatile</i>	Organic Compounds by 8260.	<u>B</u>	Prepared by met	hod Volat	tiles					
71-43-2	Benzene	4.9	1.0 µg/l	1	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	2.0	1.0 μg/l	1	n	**	11	Ħ	U	
1634-04-4	Methyl tert-butyl ether	38.8	1.0 µg/l	1	n	n	11	n.	11	
91-20-3	Naphthalene	1.3	1.0 µg/l	1	11	"	11	n	**	
108-88-3	Toluene	4.6	1.0 µg/l	1	11	"	11	**	**	
95-63-6	1,2,4-Trimethylbenzene	7.5	1.0 µg/l	1	11	n .	**	"	11	
108-67-8	1,3,5-Trimethylbenzene	2.5	1.0 µg/l	1	11	"	H	**	**	
1330-20-7	m,p-Xylene	11.4	2.0 μg/l	1	11	"	"	Ħ	11	
95-47-6	o-Xylene	2.7	1.0 μg/l	1	H		n	11	11	
 Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	104	70-130 %		H	II .	11	"	"	
2037-26-5	Toluene-d8	98.4	70-130 %		If	"	Ħ	"	11	
17060-07-0	1,2-Dichloroethane-d4	92.2	70-130 %		11	H	11	u	"	
1868-53-7	Dibromofluoromethane	99.0	70-130 %		Ħ	n	11	**	**	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by met	hod SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1		11	U	"	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	17	11	H	,H	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	II	"	11	17	
100100000	Aviation Fuel	BRL	0.2 mg/l	1	"	11	**	11	U	
	Unidentified	0.5	0.2 mg/l	1	11	11	n	"	n	
	Other Oil	Calculated as	0.2 mg/l	1	H	11	11	17	Ħ	
	Diesel Range Organics (DRO)	0.5	0.2 mg/l	1	"	11	. н	"	. 11	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	83.8	40-140 %		ıı	n	***	n	**	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:40

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	157	5.0 μg/l	5	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	21.6	5.0 μg/l	5	17	n	"	II.	**	
1634-04-4	Methyl tert-butyl ether	337	5.0 μg/l	5	11	n	n	"	"	
91-20-3	Naphthalene	93.7	5.0 μg/l	5	19	n	"	n	"	
108-88-3	Toluene	BRL	5.0 μg/l	5	11	Ħ	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	159	5.0 μg/l	5	n	Ħ	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	55.6	5.0 μg/l	5	n	n	"	"	"	
1330-20-7	m,p-Xylene	145	10.0 µg/l	5	11	Ħ	11	**	"	
95-47-6	o-Xylene	BRL	5.0 μg/l	5	10	n	11	n	"	
Surrogate	e recoveries:									
460-00-4	4-Bromofluorobenzene	105	70-130 %		"	ŧı	"	u	"	
2037-26-5	Toluene-d8	97.8	70-130 %		11	n	"	11	"	
17060-07-0	1,2-Dichloroethane-d4	102	70-130 %		11	11	n .	**	"	
1868-53-7	Dibromofluoromethane	101	70-130 %		n	11	11	"	"	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	346 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.3 mg/l	1	8015BM/ME4.1	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.3 mg/l	1	*	"	"	Ħ	и	
68553-00-4	Fuel Oil #6	BRL	0.3 mg/l	1	"	u	H	**	"	
M09800000	Motor Oil	BRL	0.3 mg/l	1	11	U	"	**	"	
J00100000	Aviation Fuel	BRL	0.3 mg/l	1	11	Ħ	11	18	"	
	Unidentified	5.3	0.3 mg/l	. 1	11	Ħ	n	11	11	
	Other Oil	Calculated as	0.3 mg/l	1	**	11	n	II*	n	
	Diesel Range Organics (DRO)	5.3	0.3 mg/l	1		11	n	11	11	,
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	128	40-140 %		"	11	**	11	n	

Sample Identification MW-7 SA31998-06

Client Project # 08-204262

Matrix Product Collection Date/Time 29-Jul-05 14:05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extracta	able Petroleum Hydrocarboi	ns			-					
<u>TPH 810</u>	00 by GC		Prepared by me	thod SW84	46 3550B					
8006-61-9	Gasoline	BRL	3920 mg/kg	1	+SW846 8100Mod.	10-Aug-05	11-Aug-05	5080701	KG	
68476-30-2	Fuel Oil #2	201,000	3920 mg/kg	1	n	"	11	*1	19	
68476-31-3	Fuel Oil #4	BRL	3920 mg/kg	1	~ n	"	"	U	"	
68553-00-4	Fuel Oil #6	BRL	3920 mg/kg	1	tt	U	11	"	11	
M09800000	Motor Oil	BRL	3920 mg/kg	1	11	n	11	"	11	
8032-32-4	Ligroin	BRL	3920 mg/kg	1	**	n	11	"	11	
J00100000	Aviation Fuel	BRL	3920 mg/kg	1	**	"	· ·	11	**	
	Unidentified	BRL	3920 mg/kg	1	11	"	ıı	11	**	
	Other Oil	BRL	3920 mg/kg	1	0	"	n	11	n	
	Total Petroleum Hydrocarbons	201,000	3920 mg/kg	1	"	**	"	"	u	
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	672	40-140 %		**	"	11	**	11	S-02

Matrix Ground Water Collection Date/Time 29-Jul-05 14:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<i>Volatile</i>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	17.7	1.0 μg/l	1	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	BRL	1.0 μg/l	1	11	ti.	н	"	Ħ	
1634-04-4	Methyl tert-butyl ether	61.6	1.0 μg/l	1	11	11	n.	*11	11	
91-20-3	Naphthalene	BRL	1.0 μg/l	1	"	. "	"	11	"	
108-88-3	Toluene	BRL	1.0 μg/l	1	11	R	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	11	11	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 μg/l	1	**	11	11	11	"	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	11	и	"	11	H	
95-47-6	o-Xylene	BRL	1.0 μg/l	1	11	"	н	n	. "	
 Surrogate	recoveries:			,,						
460-00-4	4-Bromofluorobenzene	105	70-130 %		н	11	11	"	n	
2037-26-5	Toluene-d8	97.6	70-130 %		n	н	19	"	n	
17060-07-0	1,2-Dichloroethane-d4	103	70-130 %		**	"	"	н	11	
1868-53-7	Dibromofluoromethane	101	70-130 %		"	"	11	н .	n	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	"	**	19	n	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	"	ti	11	11	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	**	"	11	11	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	"	11	**	11	11	
	Unidentified	5.4	0.2 mg/l	1	11	**	11	H	u	
	Other Oil	BRL	0.2 mg/l	1	"	n	11	17	u	
	Diesel Range Organics (DRO)	5.4	0.2 mg/l	1	11	19	"	"	*1	
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	142	40-140 %		ti	u	"	**	19	S-02

Matrix Ground Water Collection Date/Time 29-Jul-05 14:35

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile (	Organic Compounds by 8260.	<u>B</u>	Prepared by met	hod Vola	tiles					
71-43-2	Benzene	18.2	1.0 µg/l	1	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	1.3	1.0 μg/l	l	"	n	11	Ħ	11	
1634-04-4	Methyl tert-butyl ether	4.9	1.0 µg/l	1	11	"	11	**	"	
91-20-3	Naphthalene	BRL	1.0 μg/l	1	11	"	**	"	"	
108-88-3	Toluene	BRL	1.0 μg/l	1	11	n	"	**	11	
95-63-6	1,2,4-Trimethylbenzene	50.6	1.0 μg/l	1	11	"	H	"	"	
108-67-8	1,3,5-Trimethylbenzene	3.4	1.0 µg/l	1	ıı	"	11	#	н	
1330-20-7	m,p-Xylene	2.1	2.0 μg/l	1	H	" "	11	"	"	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	11	"	11	"	"	
 Surrogate	recoveries:					,		,		
460-00-4	4-Bromofluorobenzene	108	70-130 %		H	11	n	n	11	
2037-26-5	Toluene-d8	98.0	70-130 %		H	11	Ħ	"	n	
17060-07-0	1,2-Dichloroethane-d4	102	70-130 %		11	"	**	11	**	
1868-53-7	Dibromofluoromethane	99.6	70-130 %		11	"	TI TI	"	"	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by met	hod SW8	46 3535					
68476-30-2	Fuel Oil #2	6.7	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	n	"	H	11	**	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1		11	**	н	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	n	11	If	n	11	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	R	11	"	**	11	
	Unidentified	BRL	0.2 mg/l	1	"	"	"	n	11	
	Other Oil	BRL	0.2 mg/l	1	II .	H.	11	11	н	
	Diesel Range Organics (DRO)	6.7	0.2 mg/l	1	n	"	"	u	11	
Surrogate	recoveries:								···	
3386-33-2	1-Chlorooctadecane	120	40-140 %		n	n	"	11	ti <sup>c</sup>	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by met	hod Vola	tiles					
71-43-2	Benzene	BRL	10.0 μg/l	10	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	162	10.0 μg/l	10	11	**	11	"	11	
1634-04-4	Methyl tert-butyl ether	BRL	10.0 μg/l	10	Ħ	**	11	n	11	
91-20-3	Naphthalene	438	10.0 μg/l	10	n	"	"	n	II.	
108-88-3	Toluene	BRL	10.0 μg/l	10	n	n	n	n	n	
95-63-6	1,2,4-Trimethylbenzene	760	10.0 μg/l	10	**	**	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	252	10.0 μg/l	10	11	**	n	"	"	
1330-20-7	m,p-Xylene	745	20.0 μg/l	10	"	H	R	"		
95-47-6	o-Xylene	13.7	10.0 μg/l	10	11	"	"	n	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	104	70-130 %		II	11	**	н	11	
2037-26-5	Toluene-d8	98.8	70-130 %		ii.	11	н	"	**	
17060-07-0	1,2-Dichloroethane-d4	102	70-130 %		11	n	n	n	11	
1868-53-7	Dibromofluoromethane	100	70-130 %		"	"	**	n	н	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Org <u>anics</u>		Prepared by met	hod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	"	H	11	"	n	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	Ħ	**	11	"	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	ti	**	**	"	17	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	n	**	**	11	"	
	Unidentified	5.8	0.2 mg/l	1	n	n	11	"	11	
	Other Oil	Calculated as	0.2 mg/l	1	*1	n	Ħ	n	0	
	Diesel Range Organics (DRO)	5.8	0.2 mg/l	1	Ħ	n	n	u	n	
Surrogate	recoveries:		**************************************							
3386-33-2	1-Chlorooctadecane	102	40-140 %		11	U	"	"	n	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:25

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	60.2	5.0 μg/l	5	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	29.0	5.0 μg/l	5	н	**	"	**	11	
1634-04-4	Methyl tert-butyl ether	154	5.0 μg/l	5	11	11	11	11	11	
91-20-3	Naphthalene	103	5.0 μg/l	5	11	**	"	11	11	
108-88-3	Toluene	BRL	5.0 μg/l	5	11	11	**	11	17	
95-63-6	1,2,4-Trimethylbenzene	313	5.0 μg/l	5	11	**	**	**	"	
108-67-8	1,3,5-Trimethylbenzene	135	5.0 μg/l	5	11	11	. "	"	0	
1330-20-7	m,p-Xylene	191	10.0 µg/l	5	19	11	**	H		
95-47-6	o-Xylene	7.1	5.0 μg/l	5	11	**	"	11	11	
Surrogate	e recoveries:									
460-00-4	4-Bromofluorobenzene	99.0	70-130 %		11	11	"	n	19	
2037-26-5	Toluene-d8	100	70-130 %		н	11	"	**	17	
17060-07-0	1,2-Dichloroethane-d4	121	70-130 %		н	11	11	"	n	
1868-53-7	Dibromofluoromethane	98.8	70-130 %		Ħ	11	II .	"	"	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	ti	"	**	11	"	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	11	"	"	"	U	
M09800000	Motor Oil	BRL	0.2 mg/l	1	11	D	"	"	н	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	n	19	"		**	
	Unidentified	3.4	0.2 mg/l	1	11	11	Ħ	11	н	
	Other Oil	Calculated as	0.2 mg/l	1	n	**	11	0	"	
	Diesel Range Organics (DRO)	3.4	0.2 mg/l	. 1	11	"	U	tt	"	
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	72.5	40-140 %		Ħ	*1	11	11	11	

Matrix Ground Water Collection Date/Time 29-Jul-05 13:20

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<i>Volatile</i>	Organic Compounds by 8260.	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	453	5.0 μg/l	5	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	11.1	5.0 μg/l	5	11	и	"	It	u	
1634-04-4	Methyl tert-butyl ether	43.8	5.0 μg/l	5	n	ıı	"	11	**	
91-20-3	Naphthalene	224	5.0 μg/l	5	"	'n	"	Ħ	**	
108-88-3	Toluene	5.8	5.0 μg/l	5	ı	ņ	"	n	**	
95-63 <b>-</b> 6	1,2,4-Trimethylbenzene	177	5.0 μg/l	5	H	U	"	u	**	
108-67-8	1,3,5-Trimethylbenzene	64.6	5.0 μg/l	5	n	n	"	u	"	
1330-20-7	m,p-Xylene	39.6	10.0 µg/l	5	**	n	**	ıı	. н	
95-47-6	o-Xylene	BRL	5.0 μg/l	5	н	н	"	11	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	106	70-130 %		"	"	"	n	#	
2037-26-5	Toluene-d8	99.2	70-130 %		n	"	**	"	"	
17060-07-0	1,2-Dichloroethane-d4	104	70-130 %		"	Ħ	**	H.	"	
1868-53-7	Dibromofluoromethane	100	70-130 %		n	11	11	11	n	
Extracta	able Petroleum Hydrocarboi	18								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	**	**	"	**	D	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	Ħ	"	IJ	n	n	
M09800000	Motor Oil	BRL	0.2 mg/l	1	11	н	11	n	**	
0000010000	Aviation Fuel	BRL	0.2 mg/l	1	11	II .	n	17	"	
	Unidentified	2.6	0.2 mg/l	. 1	н	"	11	**	**	
	Other Oil	Calculated as	0.2 mg/l	. 1	11	n	11	11	11	
	Diesel Range Organics (DRO)	2.6	0.2 mg/l	1	t†	ıı	"	11	H	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	83.2	40-140 %		**	***	, "	19	**	

Sample Identification MW-17

SA31998-12

Client Project # 08-204262

Matrix Product Collection Date/Time 29-Jul-05 11:45

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extracta	able Petroleum Hydrocarboi	18			,		-			
TPH 810	00 by GC		Prepared by me	thod SW84	46 3550B					
8006-61-9	Gasoline	Calculated as	3380 mg/kg	1	+SW846 8100Mod.	10-Aug-05	11-Aug-05	5080701	KG	
68476-30-2	Fuel Oil #2	Calculated as	3380 mg/kg	1	"	"	Ħ	Ħ	11	
68476-31-3	Fuel Oil #4	BRL	3380 mg/kg	1	"	"	"	"	19	
68553-00-4	Fuel Oil #6	BRL	3380 mg/kg	1	n	"	"	11	n	
M09800000	Motor Oil	BRL	3380 mg/kg	1	11	**	n	**	19	
8032-32-4	Ligroin	BRL	3380 mg/kg	1	11	"	"	11	11	
J00100000	Aviation Fuel	BRL	3380 mg/kg	1	"	11	**	*1	11	
	Unidentified	70,200	3380 mg/kg	1	"	**	"	u	10	
	Other Oil	BRL	3380 mg/kg	1	"	**	**	11	11	
	Total Petroleum Hydrocarbons	70,200	3380 mg/kg	1	11	**	**	"	H	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	178	40-140 %		n	**	**	**	"	S-02

Matrix Ground Water Collection Date/Time 29-Jul-05 13:35

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile (	Organic Compounds by 8260.	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	2,770	100 µg/l	100	SW846 8260B	10-Aug-05	10-Aug-05	5080723	RLJ	
100-41-4	Ethylbenzene	1,310	100 μg/l	100	n	"	"	**	**	
1634-04-4	Methyl tert-butyl ether	1,570	100 µg/l	100	n	"	"	n	"	
91-20-3	Naphthalene	824	100 µg/l	100	n	n	,	"	n	
108-88-3	Toluene	6,290	100 µg/l	1.00	n	u	"	H	n	
95-63-6	1,2,4-Trimethylbenzene	3,230	100 μg/l	100	•	"	P	Iţ	н	
108-67-8	1,3,5-Trimethylbenzene	905	100 μg/l	100	11	"	"	H	n	
1330-20-7	m,p-Xylene	6,250	200 μg/l	100	n	"	n	и	**	
95-47-6	o-Xylene	2,820	100 μg/l	100	11	"	11	"	n	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	106	70-130 %		**	n	"	If	**	
2037-26-5	Toluene-d8	101	70-130 %		"	"	0	11	***	
17060-07-0	1,2-Dichloroethane-d4	106	70-130 %		11	"	tr	n	11	
1868-53-7	Dibromofluoromethane	99.4	70-130 %		If	II.	10	"	11	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel Ro	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	**	u	"	n	*1	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	11	**	U	**	**	
M09800000	Motor Oil	BRL	0.2 mg/l	1	H	11	"	11	**	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	"	19	11	"	"	
	Unidentified	15.3	0.2 mg/l	1	11	n	"	*1	"	
	Other Oil	Calculated as	0.2 mg/l	1	u	11	**	11	11	
	Diesel Range Organics (DRO)	15.3	0.2 mg/l	1	*1	n	"	"	u u	
Surrogate	recoveries:	1.00								
3386-33-2	1-Chlorooctadecane	165	40-140 %		**	n	u	11	**	S-02

Sample Identification MW-19 SA31998-14

Client Project # 08-204262

Matrix Product Collection Date/Time 29-Jul-05 12:55

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst Flag
Extracta	ıble Petroleum Hydrocarboi	18							
TPH 810	00 by GC		Prepared by me	thod SW8	46 3550B				
8006-61-9	Gasoline	Calculated as	3710 mg/kg	1	+SW846 8100Mod.	10-Aug-05	11-Aug-05	5080701	KG
68476-30-2	Fuel Oil #2	Calculated as	3710 mg/kg	1	u	11	n	n	H
68476-31-3	Fuel Oil #4	BRL	3710 mg/kg	1	tt	11	II .	Ħ	u
68553-00-4	Fuel Oil #6	BRL	3710 mg/kg	1	Ü	"	n	u	n
M09800000	Motor Oil	BRL	3710 mg/kg	1	n	"	n	U	u .
8032-32-4	Ligroin	BRL	3710 mg/kg	1	"	"	"	ij	II .
J00100000	Aviation Fuel	BRL	3710 mg/kg	1	n	**	11	u	U
	Unidentified	23,200	3710 mg/kg	1	11	n	"	u	n
	Other Oil	BRL	3710 mg/kg	1	**	P	"	n	11
	Total Petroleum Hydrocarbons	23,200	3710 mg/kg	1	11	H	11	n	IF
Surrogate	recoveries:								
3386-33-2	1-Chlorooctadecane	85.1	40-140 %		н	Ħ	u	n	11

Matrix Ground Water Collection Date/Time 29-Jul-05 13:45

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	616	50.0 μg/l	50	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	1,050	50.0 μg/l	50	. "	**	"	n	**	
1634-04-4	Methyl tert-butyl ether	BRL	50.0 μg/l	50	н	**	11	н	**	
91-20-3	Naphthalene	352	50.0 μg/l	50	11	**	17	"	**	
108-88-3	Toluene	1,450	50.0 μg/l	50	11	11	11	"	**	
95-63-6	1,2,4-Trimethylbenzene	1,310	50.0 μg/l	50	11	**	11	"	**	
108-67-8	1,3,5-Trimethylbenzene	363	50.0 μg/l	50	11	u u	R	**	n	
1330-20-7	m,p-Xylene	4,020	100 μg/l	50	n	u	**	**	u u	
95-47-6	o-Xylene	996	50.0 μg/l	50	0	"	**	#	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	95.6	70-130 %		If	"	n	**	0	
2037-26-5	Toluene-d8	98.4	70-130 %		11	"	н	u	11	
17060-07-0	1,2-Dichloroethane-d4	105	70-130 %		17	"	**	**	n	
1868-53-7	Dibromofluoromethane	91.2	70-130 %		ii	"	n	Ħ	U	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	II.	"	**	u	**	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	U	"	"	"	tt	
M09800000	Motor Oil	BRL	0.2 mg/l	1	U	0	n	"	11	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	n	Ħ	**	**	n	
	Unidentified	3.5	0.2 mg/l	1	n	n	**	**	**	
	Other Oil	Calculated as	0.2 mg/l	1	n	ı,	ŧr	**	Ħ	
	Diesel Range Organics (DRO)	3.5	0.2 mg/l	1	"	Ħ	Ħ	"	n	
Surrogate	recoveries:	**************************************								
3386-33-2	1-Chlorooctadecane	97.3	40-140 %		n	u	11	"	n	

Matrix Ground Water Collection Date/Time 29-Jul-05 13:20

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst 1	Flag
Volatile	Organic Compounds					•				
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	572	10.0 µg/l	10	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	11.8	10.0 μg/l	10	n	H.	u	U	**	
1634-04-4	Methyl tert-butyl ether	44.1	10.0 μg/l	10	u	**	11	Ħ	11	
91-20-3	Naphthalene	163	10.0 μg/l	10	Ħ	n	**	"	**	
108-88-3	Toluene	BRL	10.0 µg/l	10	11	**	"	"	**	
95-63-6	1,2,4-Trimethylbenzene	175	10.0 µg/l	10	*1	Ħ	"	11	"	
108-67-8	1,3,5-Trimethylbenzene	67.5	10.0 μg/l	10	11	"	"	11	n	
1330-20-7	m,p-Xylene	43.3	20.0 μg/l	10	11	"	**	"	n	
95-47-6	o-Xylene	BRL	10.0 μg/l	10	Ħ	11	11	"	"	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	95.2	70-130 %		H	n	H	и	"	
2037-26-5	Toluene-d8	98.2	70-130 %		11	"	"	n	n	
17060-07-0	1,2-Dichloroethane-d4	100	70-130 %		11	"	II .	, "	"	
1868-53-7	Dibromofluoromethane	91.0	70-130 %		"	11	II.	n	"	
Extracta	able Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	†I	n	"	n	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	11	"	н	**	n	
M09800000	Motor Oil	BRL	0.2 mg/l	1	11	*	11	11	Ħ	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	H	19	u	11	**	
	Unidentified	2.1	0.2 mg/l	l	"	II .	**	**	Ħ	
	Other Oil	Calculated as	0.2 mg/l	1	**	Ħ	**	**	11	
	Diesel Range Organics (DRO)	2.1	0.2 mg/l	1	Ħ,	"		11	11	
Surrogate	e recoveries:									
3386-33-2	1-Chlorooctadecane	72.1	40-140 %	i	U	11	n	11	19	

Matrix Ground Water Collection Date/Time 29-Jul-05 15:00

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds							·		
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	150	10.0 μg/l	10	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	121	10.0 μg/l	10	H	"	11	n	**	
1634-04-4	Methyl tert-butyl ether	BRL	10.0 μg/l	10	n	**	11	11	"	
91-20-3	Naphthalene	50.6	10.0 μg/l	10	**		11	n	11	
108-88-3	Toluene	25.7	10.0 μg/l	10	n	n	11	19	11	
95-63-6	1,2,4-Trimethylbenzene	126	10.0 μg/l	10	"	11	11	"	11	
108-67-8	1,3,5-Trimethylbenzene	41.3	10.0 μg/l	10	n	11	11		**	
1330-20-7	m,p-Xylene	437	20.0 μg/l	10	n	11	11	19	tı	
95 <b>-</b> 47-6	o-Xylene	BRL	10.0 μg/l	10	"	"	11	'n	u	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	98.6	70-130 %		U	11	11	11	0	
2037-26-5	Toluene-d8	98.0	70-130 %		11	It	и	"	**	
17060-07-0	1,2-Dichloroethane-d4	107	70-130 %		"	11	11	11	**	
1868-53-7	Dibromofluoromethane	92.8	70-130 %		"	11	11	11	11	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	u,	n	u u	n	H	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	u u	"	n	11	"	
M09800000	Motor Oil	BRL	0.2 mg/l	1	11	n	11	n	n	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	Ħ	"	11	ŧı	"	
	Unidentified	1.7	0.2 mg/l	1	. "	"	II.	U	"	
	Other Oil	Calculated as	0.2 mg/l	1	н	**	11	"	n	
	Diesel Range Organics (DRO)	1.7	0.2 mg/l	1	U	**	11	"	**	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	79.0	40-140 %		11	11	"	11	н	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:50

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile (	Organic Compounds by 8260.	<u>B</u>	Prepared by met	hod Volat	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim	
100-41-4	Ethylbenzene	BRL	1.0 μg/l	1	II	n		n	**	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 μg/l	1	ıı .	n	**	n	**	
91-20-3	Naphthalene	BRL	1.0 μg/l	1	ı,	11	"	n	"	
108-88 <b>-</b> 3	Toluene	BRL	1.0 μg/l	1	**	11	**	n	Ħ	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 μg/l	1	11	11	**	n	"	
108-67 <b>-</b> 8	1,3,5-Trimethylbenzene	BRL	1.0 μg/l	1	"	11	n	U	R	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	ii	u	**	n	"	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	11	"	· ·	"	**	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	94.2	70-130 %		"	tt	"	n	n	
2037-26-5	Toluene-d8	99.0	70-130 %		11	**	"	H	"	
17060-07-0	1,2-Dichloroethane-d4	101	70-130 %			**	n	11	"	
1868-53-7	Dibromofluoromethane	89.2	70-130 %		n	"	u	"	D	
Extracta	ıble Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by met	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	11	н	n	*1	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	n	11	n	11	**	
M09800000	Motor Oil	BRL	0.2 mg/l	1	**	n	11	"	n	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	**	tt	11	11	11	
	Unidentified	0.4	0.2 mg/l	1	It	*1	11	n	11	
	Other Oil	Calculated as	0.2 mg/l	1	"	11	u	"	n	
	Diesel Range Organics (DRO)	0.4	0.2 mg/l	1	11	**	11	H	11	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	56.8	40-140 %		11	II .	11	"	"	

Matrix Ground Water Collection Date/Time 29-Jul-05 14:40

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst Fl
— Volatile	Organic Compounds								
<u>Volatile</u>	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles				
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	08-Aug-05	09-Aug-05	5080574	tim
100-41-4	Ethylbenzene	BRL	1.0 μg/l	1	n	n	n	"	"
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	n	"	n	"	"
91-20-3	Naphthalene	BRL	1.0 µg/l	1	"	"	"	11	u
108-88-3	Toluene	BRL	1.0 µg/l	1	ıı	"	"	"	U
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	U	··	n	n	"
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	n	17	"	"	"
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	ıı	n	"	"	n
95-47-6	o-Xylene	BRL	1.0 μg/l	1	0	"	ii.	"	11
Surrogate	recoveries:								
460-00-4	4-Bromofluorobenzene	95.4	70-130 %		U	n	II .	11	"
2037-26-5	Toluene-d8	98.8	70-130 %		n	n	u	**	"
17060-07-0	1,2-Dichloroethane-d4	103	70-130 %		n	**	11	11	"
1868-53-7	Dibromofluoromethane	89.8	70-130 %		11	"	n	11	"
Extracta	able Petroleum Hydrocarbo	ns							
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535				
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	08-Aug-05	09-Aug-05	5080507	KG
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	H	11	n	IF	u
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	11	11	n	17	"
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	11	ıı	n	It
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	"	ti	"	11	11
	Unidentified	0.5	0.2 mg/l	1	11	**	11	**	n
	Other Oil	Calculated as	0.2 mg/l	1	11	**	11	**	**
	Diesel Range Organics (DRO)	0.5	0.2 mg/l	1	u	n	11	11	"
Surrogate	e recoveries:								
3386-33-2	1-Chlorooctadecane	54.2	40-140 %		H	**	**	19	11

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5080574 - Volatiles									
Blank (5080574-BLK1)			Prepared:	08-Aug-0	5 Analyz	ed: 09-Aug	;-05		
Benzene	BRL	1.0 μg/l							
Ethylbenzene	BRL	1.0 µg/l							
Methyl tert-butyl ether	BRL	1.0 µg/l							
Naphthalene	BRL	1.0 µg/l							
Toluene	BRL	1.0 μg/l					•		
1,2,4-Trimethylbenzene	BRL	1.0 µg/l							
1,3,5-Trimethylbenzene	BRL	1.0 µg/l							
m,p-Xylene	BRL	2.0 μg/l							
o-Xylene	BRL	1.0 µg/l							
Surrogate: 4-Bromofluorobenzene	46.8	μg/l	50.0		93.6	70-130			
Surrogate: Toluene-d8	48.6	μg/l	50.0		97.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	51.2	μg/l	50.0		102	70-130			
Surrogate: Dibromofluoromethane	46.1	μg/l	50.0		92.2	70-130			
LCS (5080574-BS1)			Prepared:	08-Aug-0	5 Analyz	ed: 09-Aug	g-05		
Benzene	21.1	μg/l	20.0		106	70-130	,		
Ethylbenzene	20.1	μg/l	20.0		100	70-130			
Methyl tert-butyl ether	20.2	μg/l	20.0		101	70-130			
Naphthalene	19.5	μg/l	20.0		97.5	70-130			
Toluene	21.4	μg/l	20.0		107	70-130			
1,2,4-Trimethylbenzene	19.1	μg/l	20.0		95.5	70-130			
1,3,5-Trimethylbenzene	19.2	μg/l	20.0		96.0	70-130			
m,p-Xylene	40.2	μg/l	40.0		100	70-130			
o-Xylene	19.3	μg/l	20.0		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	46.3	μg/l	50.0		92.6	70-130			
Surrogate: Toluene-d8	48.7	μg/l μg/l	50.0		97.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	50.4	μg/l μg/l	50.0		101	70-130			
Surrogate: Dibromofluoromethane	44.4	. μg/l μg/l	50.0		88.8	70-130			
-	77.7	۳۵۰		- ΩΩ- Δυα-Ο		ed: 09-Aug	<sub>2-</sub> 05		
LCS Dup (5080574-BSD1)	01.5	м		Vo-Aug-C				20	
Benzene	21.5	μ <b>g/l</b>	20.0		108	70-130	1.87 1.98	30 30	
Ethylbenzene	20.3	μg/l	20.0		102	70-130 70-130	1.96	30	
Methyl tert-butyl ether	18.2	μg/l	20.0		91.0		13.7	30	
Naphthalene	17.0	μg/l /	20.0 20.0		85.0 108	70-130 70-130	0.930	30	
Toluene	21.6	μg/l α/l	20.0		98.5	70-130	3.09	30	
1,2,4-Trimethylbenzene	19.7 19.7	μg/l α/l	20.0		98.5	70-130	2.57	30	
1,3,5-Trimethylbenzene	41.0	μg/l μg/l	40.0		102	70-130	1.98	30	
m,p-Xylene o-Xylene	19.7	μg/l	20.0		98.5	70-130	2.05	30	
			50.0		93.2	70-130	2.00		
Surrogate: 4-Bromofluorobenzene	46.6	μg/l	50.0 50.0		93.2 98.2	70-130 70-130			
Surrogate: Toluene-d8	49.1	μg/l α/l	50.0		95.6	70-130 70-130			
Surrogate: 1,2-Dichloroethane-d4 Surrogate: Dibromofluoromethane	47.8 44.6	μg/l μg/l	50.0		89.2	70-130			
-				. 00 4			- 05		
Matrix Spike (5080574-MS1)		rce: SA31998-11				ed: 09-Aug	3-03		
Benzene	23.5	μg/l	20.0	0.191	117	70-130			
Chlorobenzene	16.4	μg/l	20.0	BRL	82.0	70-130			ON 4 O
1,1-Dichloroethene	9.0	μg/l	20.0	BRL	45.0 70.0	70-130			QM-0
Toluene	15.8	μg/l	20.0	BRL	79.0	70-130			OM 0
Trichloroethene	13.1	μg/l	20.0	BRL	65.5	70-130			QM-0
Surrogate: 4-Bromofluorobenzene	48.7	μg/l	50.0		97.4	70-130			
Surrogate: Toluene-d8	49.8	μg/l	50.0		99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	56.6	μg/l	50.0		113	70-130			
Surrogate: Dibromofluoromethane	48.3	μg/l	50.0		96.6	70-130			
Matrix Spike Dup (5080574-MSD1)	Sou	rce: SA31998-11	Prepared	: 08-Aug-0	)5 Analy2	ed: 09-Au	g-05		

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5080574 - Volatiles									
Matrix Spike Dup (5080574-MSD1)	Sou	rce: SA31998-11	Prepared:	08-Aug-0	5 Analyze	d: 09-Aug	;-05		
Benzene	23.7	μg/l	20.0	0.191	118	70-130	0.851	30	
Chlorobenzene	15.8	μg/l	20.0	BRL	79.0	70-130	3.73	30	
1,1-Dichloroethene	9.1	μg/l	20.0	BRL	45.5	70-130	1.10	30	QM-07
Toluene	14.9	μg/l	20.0	BRL	74.5	70-130	5.86	30	
Trichloroethene	12.8	μg/l	20.0	BRL	64.0	70-130	2.32	30	QM-07
Surrogate: 4-Bromofluorobenzene	47.4	μg/l	50.0		94.8	70-130			
Surrogate: Toluene-d8	49.4	μg/l	50.0		98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.6	μg/l	50.0		105	70-130			
Surrogate: Dibromofluoromethane	45.4	μg/l	50.0		90.8	70-130			
Batch 5080723 - Volatiles									
Blank (5080723-BLK1)			Prepared	& Analyz	ed: 10-Au	g-05			
Benzene	BRL	1.0 μg/l							
Ethylbenzene	BRL	1.0 μg/l							
Methyl tert-butyl ether	BRL	1.0 μg/l							
Naphthalene	BRL	1.0 μg/l							
Toluene	BRL	1.0 μg/l							
1,2,4-Trimethylbenzene	BRL	1.0 µg/l							
1,3,5-Trimethylbenzene	BRL	1.0 µg/l							
m,p-Xylene	BRL	2.0 μg/l							
o-Xylene	BRL	1.0 µg/l							
Surrogate: 4-Bromofluorobenzene	52.2	μg/l	50.0		104	70-130			
Surrogate: Toluene-d8	49.3	μg/l	50.0		98.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	49.6	μg/l	50.0		99.2	70-130			
Surrogate: Dibromofluoromethane	50.9	μg/l	50.0		102	70-130			
LCS (5080723-BS1)			Prepared	& Analyz	ed: 10-Au				
Benzene	18.6	μg/l	20.0		93.0	70-130			
Ethylbenzene	18.3	μg/l	20.0		91.5	70-130			
Methyl tert-butyl ether	21.3	μg/l	20.0		106	70-130			
Naphthalene	20.5	μg/l	20.0		102	70-130			
Toluene	18.2	μg/l	20.0		91.0	70-130			
1,2,4-Trimethylbenzene	19.0	μg/l	20.0		95.0	70-130			
1,3,5-Trimethylbenzene	18.8	μg/l	20.0		94.0	70-130			
m,p-Xylene	36.0	μg/l	40.0		90.0	70-130			
o-Xylene	20.3	μg/l	20.0		102	70-130			
Surrogate: 4-Bromofluorobenzene	52.2	μg/l	50.0		104	70-130			
Surrogate: Toluene-d8	49.8	μg/l	50.0		99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	54.1	μg/l	50.0		108	70-130			
Surrogate: Dibromofluoromethane	54.0	μg/l	50.0		108	70-130			
LCS Dup (5080723-BSD1)				& Analyz	ed: 10-Au				
Benzene	18.9	μg/l	20.0		94.5	70-130	1.60	30	
Ethylbenzene	19.9	μg/l	20.0		99.5	70-130	8.38	30	
Methyl tert-butyl ether	17.6	μg/l 	20.0		88.0	70-130	18.6	30	
Naphthalene	18.7	μg/l "	20.0		93.5	70-130	8.70	30	
Toluene	18.5	μg/l	20.0		92.5	70-130	1.63	30	
1,2,4-Trimethylbenzene	20.4	μ <b>g/l</b>	20.0		102	70-130	7.11	30	
1,3,5-Trimethylbenzene	20.4	μg/l	20.0		102	70-130	8.16	30	
m,p-Xylene	38.5	μg/l	40.0		96.2	70-130	6.66	30	
o-Xylene	20.4	μg/l	20.0		102	70-130	0.00	30	
Surrogate: 4-Bromofluorobenzene	50.9	μg/l	50.0		102	70-130			
Surrogate: Toluene-d8	49.5	μg/l	50.0		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	47.6	μg/l 	50.0		95.2	70-130			
Surrogate: Dibromofluoromethane	49.6	μg/l	50.0		99.2	70-130			

		*							
Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5080723 - Volatiles	-				· · · · · · · · · · · · · · · · · · ·				
Matrix Spike (5080723-MS1)	Sou	rce: SA31851-09	Prepared	& Analyz	ed: 10-Au	g-05			
Benzene	21.2	μg/l	20.0	BRL	106	70-130			•
Chlorobenzene	22.4	μg/l	20.0	BRL	112	70-130			
1,1-Dichloroethene	20.6	μg/l	20.0	BRL	103	70-130			
Toluene	28.4	μg/l	20.0	7.60	104	70-130			
Trichloroethene	21.2	μg/l	20.0	BRL	106	70-130			
Surrogate: 4-Bromofluorobenzene	52.1	μ <b>g/</b> l	50.0		104	70-130			
Surrogate: Toluene-d8	49.4	μg/l	50.0		98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.4	μg/l	50.0		107	70-130			
Surrogate: Dibromofluoromethane	51.4	μg/l	50.0		103	70-130			
Matrix Spike Dup (5080723-MSD1)	Sou	rce: SA31851-09	Prepared	& Analyz	ed: 10-Au	g-05			
Benzene	26.3	μg/l	20.0	BRL	132	70-130	21.8	30	QM-07
Chlorobenzene	22.5	μg/l	20.0	BRL	112	70-130	0.00	30	
1,1-Dichloroethene	19.7	μg/l	20.0	BRL	98.5	70-130	4.47	30	
Toluene	28.1	μg/l	20.0	7.60	102	70-130	1.94	30	
Trichloroethene	21.1	μg/l	20.0	BRL	106	70-130	0.00	30	
Surrogate: 4-Bromofluorobenzene	52.6	μg/l	50.0		105	70-130			
Surrogate: Toluene-d8	50.0	μg/l	50.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.7	μg/l	50.0		107	70-130			
Surrogate: Dibromofluoromethane	51.7	μg/l	50.0		103	70-130			

# **Extractable Petroleum Hydrocarbons - Quality Control**

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Analyte(s)	Kesuit	- KDL UIIIS	Level	Resuit	/OKEC	Lillits	KLD.	Lillit	1 lag
Batch 5080507 - SW846 3535									
Blank (5080507-BLK1)			Prepared:	08-Aug-0	5 Analyze	ed: 09-Aug	<u>;-05</u>		
Fuel Oil #2	BRL	0.1 mg/l							
Fuel Oil #4	BRL	0.1 mg/l							
Fuel Oil #6	BRL	0.1 mg/l							
Motor Oil	BRL	0.1 mg/l							
Aviation Fuel	BRL	0.1 mg/l							
Unidentified	BRL	0.1 mg/l							
Other Oil	BRL	0.1 mg/l							
Diesel Range Organics (DRO)	BRL	0.1 mg/l							
Surrogate: 1-Chlorooctadecane	0.0224	mg/l	0.0500		44.8	40-140			
LCS (5080507-BS1)			Prepared:	08-Aug-0	5 Analyze	ed: 09-Aug	g-05		
Fuel Oil #2	10.1	0.1 mg/l	10.0		101	40-140			
Surrogate: 1-Chlorooctadecane	0.104	mg/l	0.0500		208	40-140			S-02
Batch 5080701 - SW846 3550B									
Blank (5080701-BLK1)			Prepared: 10-Aug-05 Analyzed: 11-Aug-05						
Gasoline	BRL	133 mg/kg							
Fuel Oil #2	BRL	133 mg/kg							
Fuel Oil #4	BRL	133 mg/kg							
Fuel Oil #6	BRL	133 mg/kg							
Motor Oil	BRL	133 mg/kg							
Ligroin	BRL	133 mg/kg							
Aviation Fuel	BRL	133 mg/kg							
Unidentified	BRL	133 mg/kg							
Other Oil	BRL	133 mg/kg							
Total Petroleum Hydrocarbons	BRL	133 mg/kg							
Surrogate: 1-Chlorooctadecane	2.48	mg/kg	3.33		74.5	40-140			
LCS (5080701-BS1)			Prepared:	10-Aug-0	5 Analyze	ed: 11-Aug	g-05		
Fuel Oil #2	831	13.3 mg/kg	667		125	40-140			
Duplicate (5080701-DUP1)	Sou	rce: SA31998-06	Prepared:	10-Aug-0	)5 Analyze	ed: 11-Aug	g-05		
Gasoline	BRL	3700 mg/kg		BRL				50	
Fuel Oil #2	189000	3700 mg/kg		201000			6.15	50	
Fuel Oil #4	BRL	3700 mg/kg		BRL				50	
Fuel Oil #6	BRL	3700 mg/kg		BRL				50	
Motor Oil	BRL	3700 mg/kg		BRL				50	
Ligroin	BRL	3700 mg/kg		BRL				50	
Aviation Fuel	BRL	3700 mg/kg		BRL				50	
Unidentified	BRL	3700 mg/kg		BRL				50	
Other Oil	BRL	3700 mg/kg		BRL				50	
Total Petroleum Hydrocarbons	189000	3700 mg/kg		201000			6.15	50	
Surrogate: 1-Chlorooctadecane	576	mg/kg	92.7		621	40-140			S-0

### **Notes and Definitions**

\*TPH Calculated as

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable

LCS recovery.

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic

compounds present in the sample extract

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

NR Not Reported

RPD Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC

### Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.

Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel

Fuel Oil #4 - includes #4 fuel oil

Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil

Motor Oil - includes virgin and waste automobile oil

Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha

Aviation Fuel - includes kerosene, Jet A and JP-4

Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as \*TPH (Calculated as).

<u>Laboratory Control Sample (LCS)</u>: A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analytés). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples These compounds are spiked into all blanks, standards, and

Validated by: Hanibal C. Tayeh, Ph.D. Nicole Brown



# CHAIN OF CUSTODY RECORD

379 31998 pm

andard TAT - 7 to 10 business days	Special Handling:
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Rush TAT - Date	Standard TAT -
Date Needed:	7 to 10 business

- All TATs subject to laboratory approval.

  Min. 24-hour notification needed for rushes.

unless otherwise instructed	· All samples are disposed of after 60 da
	ia

Analyses: Notes:	cid Containers:	I 6=Ascorbic A	1=Na <sub>2</sub> S2O <sub>3</sub> 2=HCl 3=H <sub>2</sub> SO <sub>4</sub> 4=HNO <sub>3</sub> 5=NaOH 6=Ascorbic Acid 7=CH <sub>3</sub> OH 8= NaHSO <sub>4</sub> 9= 10=
Sampler(s): \$. PARAMAN > M. QUERIJO	RQN: PCF	P.O. No.:	Project Mgr.: PON Multiple
Location: ST. JOHNSBURY State: M	WASOI OKON	こまかっ	CITIVEN VI EST
Site Name: NORTHODAN PETROLEUM	15 Jan 15 885 - 11 15	1	PSMANES ST, ISMX & 301
Project No.: 108-204262	•	Invoice To:	Report To: ECS
All samples are disposed of after 60 days unless otherwise instructed.	Page of 2		HANIBAL TECHNOLOGY
			Ecotomic

Date:    Date:	
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Report To:

65 M. WET ST, SUITE 301 LEHSO IN GUARMANIA

Invoice To: ECS 7

Page 2

of 7

20202

HANIBAL TECHNOLOGY

Featuring

# CHAIN OF CUSTODY RECORD

Special Handling: days

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TAT-	T p	
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- Date Needed:	10	
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- Min. 24-hour notification needed for rushes. All TATs subject to laboratory approval.
- All samples are disposed of after 60 days unless otherwise instructed.

Project No.: 08-204262

Sampler(s):	Location:	Site Name:
Sampler(s): B. BACHMAN & M. GUERING	Location: ST. JoHNSBUEY	Site Name: NATITERN PETROLEUM
M. GUERINO	State: VT	ETROILUM

Project Mgr.: Pon Muse?		P.O. No.:	ю.: 				RQN:		45		Sam	Sampler(s):		6.5	かつさ	3. BACHMAN	\$	4. GUERING	472		
1=Na <sub>2</sub> S2O <sub>3</sub> 2=HCl 3=H <sub>2</sub> SO <sub>4</sub> 4=HNO <sub>3</sub> 5=NaOH 7=CH <sub>3</sub> OH 8= NaHSO <sub>4</sub> 9= 10=	4=HNO <sub>3</sub> 5=1	VaOH 6=Ascorbic Acid	orbic /	cid			Con	Containers:	rs:				Analyses:	ses:					Notes:		
DW=Drinking Water GW=Gr O=Oil SW= Surface Water X1= すれらかにて X2=	GW=Groundwater WW Water SO=Soil SL=Sh 2= X3=	WW=Wastewater SL=Sludge A=Air X3=			ve					TSLAN	DUD	<del>2</del> 6			-						
G=Grab C=Lab Id: Sample Id:	C=Composite Date:	Time:	Туре	Matrix	Preservati	# of VOA	# of Ambe	# of Clear	# of Plastic	30Z1B V	TPH DR	3015BP	8100								
			1	•		+	+	+	+	:   8	ŀ	18	-		-	1	-				
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at 15 MW-22		1345	-	20 20 20	2	2				×		×									
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Ac /7 MW-2		1200					-													ļ	
AC / B MW/DI		1450																			
L-19 MW-IR	۲	1440	-	}—	<del>-</del>	1-	-			_		\ <u></u>		<u> </u>							
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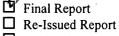
Condition upon Receipt: Ticed

□ Ambient □ 3°C

E E-mail results when available to regular a escarsult.

Report Date: 07-Nov-05 09:50





☐ Revised Report

# SPECTRUM ANALYTICAL, INC.

## Featuring HANIBAL TECHNOLOGY

# Laboratory Report

**Environmental Compliance Services** 65 Millet Street; Suite 301

Richmond, VT 05477 Attn: Kimberle Lockard Project: Northern Petroleum-St Johnsbury, VT

Project #: 08-204262.00

<b>Laboratory ID</b>	Client Sample ID	<u>Matrix</u>	Date Sampled	Date Received
SA36288-01	Trip	Ground Water	19-Oct-05 08:30	25-Oct-05 09:10
SA36288-02	MW-29	Ground Water	19-Oct-05 12:05	25-Oct-05 09:10
SA36288-03	MW-30	Ground Water	19-Oct-05 12:15	25-Oct-05 09:10
SA36288-04	Duplicate	Ground Water	19-Oct-05 12:20	25-Oct-05 09:10
SA36288-05	MW-32	Ground Water	19-Oct-05 12:15	25-Oct-05 09:10
SA36288-06	MW-27	. Ground Water	19-Oct-05 13:50	25-Oct-05 09:10
SA36288-07	MW-26	Ground Water	19-Oct-05 13:35	25-Oct-05 09:10
SA36288-09	MW-31	Ground Water	19-Oct-05 12:25	25-Oct-05 09:10
SA36288-10	MW-28	Oil	19-Oct-05 13:20	25-Oct-05 09:10

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met.

Please note that this report contains 16 pages of analytical data plus Chain of Custody document(s).

This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Massachusetts Certification # M-MA138/MA1110 Connecticut # PH-0777 Florida # E87600/E87936 Maine # MA138 New Hampshire # 2538/2972 New York # 11393/11840 Rhode Island # 98 USDA # S-51435 Vermont # VT-11393



hiba//C. Tayeh, Ph.D. President/Laboratory Director

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method indicated. Please refer to our "Quality" webpage at www.spectrum-analytical.com for a full listing of our current certifications.



Matrix Ground Water Collection Date/Time 19-Oct-05 08:30

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst Flag
Volatile	Organic Compounds							,	
<u>Volatile</u>	Organic Compounds by 82	<u> 160B</u>	Prepared by met	hod Vola	tiles				
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	"	"	U	11	11
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	"	"	u	11	19
91-20-3	Naphthalene	BRL	5.0 μg/l	1	4	u	n	n	U
108-88-3	Toluene	BRL	1.0 µg/l	1	"	"	#	Ħ	n
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	н	**	н	H	ti
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	"	н	"	**	H
1330-20-7	m,p-Xylene	BRL	2.0 µg/l	1	н	H	"	11	If
95-47-6	o-Xylene	BRL	1.0 µg/l	1	Ħ	н	II .	11	
Surrogate	e recoveries:								
460-00-4	4-Bromofluorobenzene	95.0	70-130 %		11	**	11	0	"
2037-26-5	Toluene-d8	95.7	70-130 %		U	n,	#1	**	"
17060-07-0	1,2-Dichloroethane-d4	108	70-130 %		u	"	11	"	U
1868-53 <b>-</b> 7	Dibromofluoromethane	110	70-130 %		"	ıı	11	#	ts .

Matrix Ground Water Collection Date/Time 19-Oct-05 12:05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds					_				
<u>Volatile</u>	Organic Compounds by 8260.	<u>B</u>	Prepared by met	hod Vola	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	11	11	**	ŧı	**	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	11	Ħ	11	u	u	
91-20-3	Naphthalene	BRL	5.0 μg/l	1	11	#	H	tt	n	
108-88-3	Toluene	BRL	1.0 µg/l	1	"	**	11	**	**	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	II.	11	19	*1	"	
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	11	H	10	11	11	
1330-20-7	m,p-Xylene	BRL	2.0 µg/l	1	11	11	19	19	н	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	U	11	u	n	"	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	93.7	70-130 %		0	n	ti.	н	11	
2037-26-5	Toluene-d8	111	70-130 %		U	11	**	n	ii	
17060-07-0	1,2-Dichloroethane-d4	106	70-130 %		u	11	**	н	n	
1868-53-7	Dibromofluoromethane	108	70-130 %		†I	n	11	11	n	
Extracta	able Petroleum Hydrocarboi	18								
	ange Organics		Prepared by met	hod SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	**	11	**	11	**	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	n	11	"	**	**	
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	U	**	**	"	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	II	U	н	н		
	Unidentified	BRL	0.2 mg/l	1	n	*1	n	*	n	
	Other Oil	BRL	0.2 mg/l	1	II	**	11	11	II.	
	Diesel Range Organics (DRO)	BRL	0.2 mg/l	1	U	H	"	"	(1	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	72.1	40-140 %		11	n	If	18	11	

Sample Identification MW-30 SA36288-03

Client Project # 08-204262.00

Matrix Ground Water Collection Date/Time 19-Oct-05 12:15

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile (	Organic Compounds by 8260	<u>B</u>	Prepared by metho	d Vola	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	l	SW846 8260B	01-Nov-05	01-Nov-05	5110026	KS	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	It	Ħ	If	11	#1	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 μg/l	1	11	**	11	*1	11	
91-20-3	Naphthalene	2.2	1.0 µg/l	1	H	11	It	11	ft	
108-88-3	Toluene	BRL	1.0 µg/l	1	H	11	11	11	11	
95-63-6	1,2,4-Trimethylbenzene	2.0	1.0 µg/l	1	n	11	n	11	19	
108-67-8	1,3,5-Trimethylbenzene	1.1	1.0 μg/l	1	**	Ħ	19	н	19	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	n	11	11	H	10	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	If	11	H	Iŧ	11	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	99.0	70-130 %		H	н	"	11	0	
2037-26-5	Toluene-d8	101	70-130 %		11	11	11	11	u	
17060-07-0	1,2-Dichloroethane-d4	96.3	70-130 %		11	"	H	U	n	
1868-53-7	Dibromofluoromethane	103	70-130 %		n	11	n	U	"	
Extracta	ible Petroleum Hydrocarboi	ıs								
Diesel Ro	ange Organics		Prepared by metho	d SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	11	**	0	"	**	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	"	n	**	"	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	H	n	**	**	"	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	u	Ħ	11	#1	**	
	Unidentified	4.7	0.2 mg/l	1	п	**	"	н	"	
	Other Oil	BRL	0.2 mg/l	1	"	**	"	**	"	
	Diesel Range Organics (DRO)	4.7	0.2 mg/l	1	11	ft	"	11	n	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	125	40-140 %		u	41	U	u	ŧı	

Matrix Ground Water Collection Date/Time 19-Oct-05 12:20

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile	Organic Compounds by 8260	<u>B</u>	Prepared by me	thod Vola	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	01-Nov-05	01-Nov-05	5110026	KS	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	н	11	11	11	It	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	19	11	n	H	n	
91-20-3	Naphthalene	1.8	1.0 µg/l	1	11	11	17	H	17	
108-88-3	Toluene	BRL	1.0 µg/l	1	u	11	0	"	H	
95-63-6	1,2,4-Trimethylbenzene	2.0	1.0 µg/l	1	11	H	II.	11	19	
108-67-8	1,3,5-Trimethylbenzene	1.1	1.0 µg/l	1	H	11	n	ıı	U	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	11	11	IJ	11	n	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	II	11	U	n	U	
Surrogate	recoveries:			3111				,		
460-00-4	4-Bromofluorobenzene	100	70-130 %		It	*1	11	n	"	
2037-26-5	Toluene-d8	107	70-130 %		11	"	11	Ħ	"	
17060-07-0	1,2-Dichloroethane-d4	99.3	70-130 %		It	**	n	u	"	
1868-53-7	Dibromofluoromethane	105	70-130 %		11	11	u	ti	11	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by me	thod SW8	46 3535					
68476-30-2	Fuel Oil #2	Calculated as	0.2 mg/l	1	8015BM/ME4.1	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	H	11	n	н	"	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	Ħ	U	**	"	"	
M09800000	Motor Oil	BRL	0.2 mg/l	1	и .	ti	"	n	u	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	11	**	n	"	11	
	Unidentified	4.9	0.2 mg/l	1	И	**	n	n	0	
	Other Oil	BRL	0.2 mg/l	1	11	11	n	u	**	
	Diesel Range Organics (DRO)	4.9	0.2 mg/l	1	**	H	11	"	"	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	135	40-140 %		11	u	11	11	O	

Matrix Ground Water Collection Date/Time 19-Oct-05 12:15

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Fla
Volatile	Organic Compounds									
Volatile	Organic Compounds by 8260.	<u>B</u>	Prepared by metho	d Vola	tiles					
1-43-2	Benzene	BRL	1.0 μg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl	
00-41-4	Ethylbenzene	BRL	1.0 µg/l	1	H	n	U	11	"	
634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	п	"	u	n	0	
1-20-3	Naphthalene	BRL	5.0 μg/l	1	Ħ	0	"	ti	*1	
08-88-3	Toluene	BRL	1.0 µg/l	1	u	H	n	11	11	
5-63-6	1,2,4-Trimethylbenzene	BRL	1.0 μg/l	1	"	H	n	ti	11	
08-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	11	11	n	*1	17	
330-20-7	m,p-Xylene	BRL	2.0 μg/l	1	n	11	n	*1	U	
5-47-6	o-Xylene	BRL	1.0 µg/l	1	ii .	н	"	H	0	
Surrogate	recoveries:									
60-00-4	4-Bromofluorobenzene	91.3	70-130 %		н	"	"	п	11	
037-26-5	Toluene-d8	90.7	70-130 %		н	n	"	"	"	
7060-07-0	1,2-Dichloroethane-d4	110	70-130 %		"	11	u	"	0	
868-53-7	Dibromofluoromethane	108	70-130 %		H	n	"	11	0	
Extracta	ıble Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by metho	d SW8	46 3535					
8476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	31-Oct-05	01-Nov-05	5101846	LK	
8476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	u.	"	u	11	H	
8553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	п	11	n	**	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	n	19	п	u	**	
00100000	Aviation Fuel	BRL	0.2 mg/l	1	u	11	**	ti	#	
	Unidentified	BRL	0.2 mg/l	1	11	11	"	"	"	
	Other Oil	BRL	0.2 mg/l	1	11	n	11	**	If	
	Diesel Range Organics (DRO)	BRL	0.2 mg/l	1	n	n	н	н	"	
Surrogate	recoveries:		AMAL 700 PROFESSION							
386-33-2	1-Chlorooctadecane	81.1	40-140 %		0	11	e	n	11	

Matrix Ground Water Collection Date/Time 19-Oct-05 13:50

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Fla
Volatile	Organic Compounds									
Volatile -	Organic Compounds by 8260	<u>B</u>	Prepared by metho	d Vola	tiles					
71-43-2	Benzene	BRL	1.0 μg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl	
100-41-4	Ethylbenzene	BRL	1.0 μg/l	1	u	"	н	II	**	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	"	0	**	U	**	
91-20-3	Naphthalene	BRL	5.0 µg/l	1	u	0	11	H	н	
108-88-3	Toluene	BRL	1.0 µg/l	1	"	u	n	**	"	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	"	"	11	II	*	
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	0	u	11	Ħ	**	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	1		u	11	**	**	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	11	11	Ħ	11	"	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	93.3	70-130 %		If .	"	u	11	**	
2037-26-5	Toluene-d8	99.0	70-130 %		I)	"	n	0	*1	
17060-07-0	1,2-Dichloroethane-d4	115	70-130 %		H	"	0		**	
1868-53-7	Dibromofluoromethane	117	70-130 %		11	"	U	"	"	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel R	ange Organics		Prepared by metho	d SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	"	"	**	n	n	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	"	"	Ħ	н	"	
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	19	"	H	0	
100100000	Aviation Fuel	BRL	0.2 mg/l	1	"	*	n	H		
	Unidentified	BRL	0.2 mg/l	1	"	11	**	#1	11	
	Other Oil	BRL	0.2 mg/l	1	"		11	11	"	
	Diesel Range Organics (DRO)	BRL	0.2 mg/l	1	11	11	н	"	11	
Surrogate	recoveries:									-
_	1-Chlorooctadecane	73.3	40-140 %		n	u	"	n	11	

Matrix Ground Water Collection Date/Time 19-Oct-05 13:35

CAS NO.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds							·		
Volatile (	Organic Compounds by 8260.	<u>B</u>	Prepared by metho	od Volat	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	11	n	11	**	**	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	11	ŧı	10	н	"	
91-20-3	Naphthalene	BRL	5.0 μg/l	1	"	**	н	11	n	
108-88-3	Toluene	BRL	1.0 µg/l	1	**	11	11	11	17	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	н	**	н	*	"	
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	"	*1	н	н	19	
1330-20-7	m,p-Xylene	BRL	2.0 μg/l	l	**	U	н	**	11	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	U	u	**	"	"	
Surrogate	recoveries:									
460-00-4	4-Bromofluorobenzene	92.7	70-130 %		n	n	**	**	"	
2037-26-5	Toluene-d8	99.7	70-130 %		4	H	11	#1	n	
17060-07-0	1,2-Dichloroethane-d4	106	70-130 %		11	'n	11	**	"	
1868-53-7	Dibromofluoromethane	109	70-130 %		U	"	"	"	"	
Extracta	ible Petroleum Hydrocarboi	ns								
Diesel Ro	ange Organics		Prepared by metho	od SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	u u	"	ti	0	"	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1		"	ti	n	**	
M09800000	Motor Oil	BRL	0.2 mg/l	1	"	"	11	11	"	
100100000	Aviation Fuel	BRL	0.2 mg/l	1	u	11	"	"	**	
	Unidentified	BRL	0.2 mg/l	1	"	"	u	n	**	
	Other Oil	BRL	0.2 mg/l	1	11	"	11	u	**	
	Diesel Range Organics (DRO)	BRL	0.2 mg/l	1	11	u	#	**	н	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	60.2	40-140 %		"	n	"	**	н	

Matrix Ground Water Collection Date/Time 19-Oct-05 12:25

CAS No.	Analyte(s)	Result	*RDL/Units L	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile	Organic Compounds									
Volatile	Organic Compounds by 8260	<u>B</u>	Prepared by metho	d Vola	tiles					
71-43-2	Benzene	BRL	1.0 µg/l	1	SW846 8260B	31-Oct-05	01-Nov-05	5101883	krl	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	i	n	u	0	If	11	
1634-04-4	Methyl tert-butyl ether	BRL	1.0 µg/l	1	n	U	0	11	11	
91-20-3	Naphthalene	BRL	5.0 μg/l	1	n	"		11	If	
108-88-3	Toluene	BRL	1.0 µg/l	1	U	"		11	10	
95-63-6	1,2,4-Trimethylbenzene	BRL	1.0 µg/l	1	0	"	11	It	11	
108-67-8	1,3,5-Trimethylbenzene	BRL	1.0 µg/l	1	u	"	#	H	11	
1330-20-7	m,p-Xylene	BRL	2.0 µg/l	1	U	"	If	It	11	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	U	P	19	11	n	
Surrogate	recoveries:		- 1/18	· ·······					*************	
460-00-4	4-Bromofluorobenzene	91.7	70-130 %		н	н	u	11	**	
2037-26-5	Toluene-d8	98.0	70-130 %		н	"	11	11	**	
17060-07-0	1,2-Dichloroethane-d4	94.7	70-130 %		n	U	19	11	0	
1868-53-7	Dibromofluoromethane	101	70-130 %		11	0	19	11	U	
Extracta	ble Petroleum Hydrocarbo	ns								
Diesel R	ange Organics		Prepared by method	d SW8	46 3535					
68476-30-2	Fuel Oil #2	BRL	0.2 mg/l	1	8015BM/ME4.1 .25	31-Oct-05	01-Nov-05	5101846	LK	
68476-31-3	Fuel Oil #4	BRL	0.2 mg/l	1	v		ti	11	11	
68553-00-4	Fuel Oil #6	BRL	0.2 mg/l	1	u	11	u	#1	11	
M09800000	Motor Oil	BRL	0.2 mg/l	1	· ·	**	u	11	41	
J00100000	Aviation Fuel	BRL	0.2 mg/l	1	· ·	**	11	n	0	
	Unidentified	0.7	0.2 mg/l	1		**	"	11	u	
	Other Oil	Calculated as	0.2 mg/l	1	н	u	"	11	U	
	Diesel Range Organics (DRO)	0.7	0.2 mg/l	1	H	u	11	11	U	
Surrogate	recoveries:	W-F								-
	1-Chlorooctadecane	90.3	40-140 %			11	н	17	ti	

Sample Identification MW-28 SA36288-10

Client Project # 08-204262.00

Matrix Oil Collection Date/Time 19-Oct-05 13:20

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Extracta	able Petroleum Hydrocarboi	ns								
TPH 810	00 by GC		Prepared by me	thod SW8	46 3550B					
8006-61-9	Gasoline	Calculated as	19200 mg/kg	1	+SW846 8100Mod.	02-Nov-05	03-Nov-05	5110073	LK	
68476-30-2	Fuel Oil #2	BRL	19200 mg/kg	1	U	U	**	u	u	
68476-31-3	Fuel Oil #4	BRL	19200 mg/kg	1	0	11	11	n	Ħ	
68553-00-4	Fuel Oil #6	BRL	19200 mg/kg	1	n	n	0	17	0	
M09800000	Motor Oil	BRL	19200 mg/kg	1	11	н	u	n	H	
8032-32-4	Ligroin	BRL	19200 mg/kg	1	#	**	"	**	H	
J00100000	Aviation Fuel	BRL	19200 mg/kg	1	11	ti	n.	н	"	
	Unidentified	1,000,000	19200 mg/kg	1	**	0	**	H	n	
	Other Oil	Calculated as	19200 mg/kg	1	"	11	"	It	U	
	Total Petroleum Hydrocarbons	1,000,000	19200 mg/kg	1	0	n	**	Ħ	**	
Surrogate	recoveries:									
3386-33-2	1-Chlorooctadecane	3600	40-140 %		н	n	n	17	H	S-02

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5101883 - Volatiles									
Blank (5101883-BLK1)			Prepared	& Analyz	ed: 31-Oct	:-05			
Benzene	BRL	1.0 µg/l	······································	<u>v</u>					
Ethylbenzene	BRL	1.0 µg/l							
Methyl tert-butyl ether	BRL	1.0 µg/l							
Naphthalene	BRL	5.0 μg/l							
Toluene	BRL	1.0 µg/l							
1,2,4-Trimethylbenzene	BRL	1.0 µg/l							
1,3,5-Trimethylbenzene	BRL	1.0 µg/l							
m,p-Xylene	BRL	2.0 µg/l							
o-Xylene	BRL	1.0 µg/l							
Surrogate: 4-Bromofluorobenzene	28.7	μg/l	30.0		95.7	70-130			
Surrogate: Toluene-d8	27.8	μg/l	30.0		92.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	32.9	μg/l	30.0		110	70-130			
Surrogate: Dibromofluoromethane	32.2	μg/l	30.0		107	70-130			
LCS (5101883-BS1)	•		Prepared	& Analyz	ed: 31-Oct	-05			
Benzene	21.8	μg/l	20.0		109	70-130			
Ethylbenzene	21.7	μg/l	20.0		108	70-130			
Methyl tert-butyl ether	24.0	μg/l	20.0		120	70-130			
Naphthalene	23.3	μg/l	20.0		116	70-130			
Toluene	21.2	μg/l	20.0		106	70-130			
1,2,4-Trimethylbenzene	22.6	μg/l	20.0		113	70-130			
1,3,5-Trimethylbenzene	21.7	μg/l	20.0		108	70-130			
m,p-Xylene	47.5	μg/l	40.0		119	70-130			
o-Xylene	23.7	μg/l	20.0		118	70-130			
Surrogate: 4-Bromofluorobenzene	29.9	μg/l	30.0		99.7	70-130			
Surrogate: Toluene-d8	29.7	μg/l	30.0		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	30.5	μg/l	30.0		102	70-130			
Surrogate: Dibromofluoromethane	31.4	μg/l	30.0		105	70-130			
Matrix Spike (5101883-MS1)		rce: SA36182-04	Prepared:	31-Oct-0	5 Analyze	d: 01-Nov-	.05		
Benzene	14.3	μg/l	20.0	BRL	71.5	70-130			
Chlorobenzene	18.2	μg/l	20.0	BRL	91.0	70-130			
1,1-Dichloroethene	8.9	μg/l	20.0	BRL	44.5	70-130			QM-07
Toluene	16.3	μg/l	20.0	BRL	81.5	70-130			Q 07
Trichloroethene	15.0	μg/l	20.0	BRL	75.0	70-130			
	30.0	μg/l	30.0		100	70-130			
Surrogate: 4-Bromofluorobenzene Surrogate: Toluene-d8	31.4	μg/l μg/l	30.0		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	30.9	μg/l	.30.0		103	70-130			
Surrogate: Dibromofluoromethane	30.6	μg/l	30.0		102	70-130			
		rce: SA36182-04		31_Oct=0		d: 01-Nov-	.05		
Matrix Spike Dup (5101883-MSD1)			20.0	BRL	71.5	70-130	0.00	30	
Benzene	14.3	μg/l	20.0	BRL BRL	93.0	70-130	2.17	30	
Chlorobenzene	18.6 10.4	μg/l σ/l	20.0	BRL	52.0	70-130	15.5	30	QM-07
1,1-Dichloroethene Toluene	16.6	μg/l μg/l	20.0	BRL	83.0	70-130	1.82	30	QIVI 07
Trichloroethene	16.1	μg/l	20.0	BRL	80.5	70-130	7.07	30	
	30.0		30.0		100	70-130	,		• • • •
Surrogate: 4-Bromofluorobenzene	30.0 31.6	μg/l ug/l	30.0 30.0		100 105	70-130 70-130			
Surrogate: Toluene-d8 Surrogate: 1,2-Dichloroethane-d4	31.6 28.6	μg/l μg/l	30.0		95.3	70-130 70-130			
Surrogate: Dibromofluoromethane	29.5	μg/I μg/I	30.0		98.3	70-130			
Batch 5110026 - Volatiles	27.3	μ6/1	50.0	•					
Blank (5110026-BLK1)			Prepared	& Analyz	ed: 01-No	v-05			
Benzene	BRL	1.0 μg/l							
Ethylbenzene	BRL	1.0 μg/l							
Methyl tert-butyl ether	BRL	1.0 μg/l							

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5110026 - Volatiles									·
Blank (5110026-BLK1)			Prepared	& Analyze	ed: 01-No	v-05			
Naphthalene	BRL	1.0 µg/l							
Toluene	BRL	1.0 µg/l							
1,2,4-Trimethylbenzene	BRL	1.0 µg/l							
1,3,5-Trimethylbenzene	BRL	1.0 µg/l							
m,p-Xylene	BRL	2.0 μg/l							
o-Xylene	BRL	1.0 µg/l							
Surrogate: 4-Bromofluorobenzene	26.8	μg/l	30.0		89.3	70-130			
Surrogate: Toluene-d8	30.0	μg/l	30.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	31.3	μg/l	30.0		104	70-130			
Surrogate: Dibromofluoromethane	31.4	μg/l	30.0		105	70-130			
LCS (5110026-BS1)			Prepared	& Analyze	d: 01-No	v-05			
Benzene	21.5	μg/l	20.0		108	70-130			
Ethylbenzene	22.3	μg/l	20.0		112	70-130			
Methyl tert-butyl ether	26.8	μg/l	20.0		134	70-130			QC-1
Naphthalene	23.8	μg/l	20.0		119	70-130			
Toluene	23.9	μg/l	20.0		120	70-130			
1,2,4-Trimethylbenzene	22.3	μg/l	20.0		112	70-130			
1,3,5-Trimethylbenzene	21.6	μg/l	20.0		108	70-130			
m,p-Xylene	46.9	μg/l	40.0		117	70-130			
o-Xylene	23.9	μg/l	20.0		120	70-130			
Surrogate: 4-Bromofluorobenzene	30.6	μg/l	30.0		102	70-130			
Surrogate: Toluene-d8	34.8	μg/l	30.0		116	70-130			
Surrogate: 1,2-Dichloroethane-d4	30.7	μg/l	30.0		102	70-130			
Surrogate: Dibromofluoromethane	33.5	μg/l	30.0		112	70-130			
LCS Dup (5110026-BSD1)			Prepared	& Analyze	d: 01 <b>-</b> Nov	v-05			
Benzene	20.8	μg/l	20.0		104	70-130	3.77	30	
Ethylbenzene	22.1	μg/l	20.0		110	70-130	1.80	30	
Methyl tert-butyl ether	22.0	μg/l	20.0		110	70-130	19.7	30	
Naphthalene	23.1	μg/l	20.0		116	70-130	2.55	30	
Toluene	20.2	μg/l	20.0		101	70-130	17.2	30	
1,2,4-Trimethylbenzene	21.7	μg/l	20.0		108	70-130	3.64	30	
1,3,5-Trimethylbenzene	21.5	μg/l	20.0		108	70-130	0.00	30	
m,p-Xylene	46.3	μg/l	40.0		116	70-130	0.858	30	
o-Xylene	23.8	μg/l	20.0		119	70-130	0.837	30	androstal translation to the roots of
Surrogate: 4-Bromofluorobenzene	31.0	μg/l	30.0		103	70-130			
Surrogate: Toluene-d8	29.3	μg/l	30.0		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	29.4	μg/l	30.0		98.0	70-130			
Surrogate: Dibromofluoromethane	30.8	μg/l	30.0		103	70-130			
Matrix Spike (5110026-MS1)	Sou	rce: SA36182-02	Prepared	& Analyze	d: 01-Nov	v-05			
Benzene	23.6	μg/l	20.0	BRL	118	70-130			
Chlorobenzene	21.5	μg/l	20.0	BRL	108	70-130			
1,1-Dichloroethene	31.1	μg/l	20.0	BRL	156	70-130			QM-07
Toluene	23.5	μg/l	20.0	BRL	118	70-130			
Trichloroethene	21.8	μg/l	20.0	BRL	109	70-130			
Surrogate: 4-Bromofluorobenzene	31.3	μg/l	30.0		104	70-130			
Surrogate: Toluene-d8	29.7	μg/l	30.0		99.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	30.2	μg/l	30.0		101	70-130			
Surrogate: Dibromofluoromethane	33.0	μg/l	30.0		110	70-130			
Matrix Spike Dup (5110026-MSD1)	Sou	rce: SA36182-02	Prepared	& Analyze	d: 01-Nov	v-05			
Benzene	24.4	μg/l	20.0	BRL	122	70-130	3.33	30	
Chlorobenzene	23.5	μg/l	20.0	BRL	118	70-130	8.85	30	
1,1-Dichloroethene	40.6	μg/l	20.0	BRL	203	70-130	26.2	30	QM-07

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5110026 - Volatiles									
Matrix Spike Dup (5110026-MSD1)	Sou	rce: SA36182-02	Prepared	& Analyz	ed: 01-Nov	v-05			
Toluene	25.9	μg/l	20.0	BRL	130	70-130	9.68	30	
Trichloroethene	23.1	μg/l	20.0	BRL	116	70-130	6.22	30	
Surrogate: 4-Bromofluorobenzene	30.8	μg/l	30.0	•	103	70-130			
Surrogate: Toluene-d8	32.4	μg/l	30.0		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	31.5	μg/l	30.0		105	70-130			
Surrogate: Dibromofluoromethane	35.3	μg/l	30.0		118	70-130			

# **Extractable Petroleum Hydrocarbons - Quality Control**

•		*DD1 *1 *	Spike	Source	0/050	%REC	DDD	RPD	ירו		
Analyte(s)	Result	*RDL Units	Level	Result	%REC	Limits	KPD	Limit	Flag		
Batch 5101846 - SW846 3535											
Blank (5101846-BLK1)			Prepared:	31-Oct-0	5 Analyze	d: 01-Nov	0-140 0-140 0-140 0-140 0-140 03-Nov-05 0-140 03-Nov-05 0-140 03-Nov-05 0-140 03-Nov-05				
Fuel Oil #2	BRL	0.1 mg/l									
Fuel Oil #4	BRL	0.1 mg/l									
Fuel Oil #6	BRL	0.1 mg/l									
Motor Oil	BRL	0.1 mg/l									
Aviation Fuel	BRL	0.1 mg/l									
Unidentified	BRL	0.1 mg/l									
Other Oil	BRL	0.1 mg/l									
Diesel Range Organics (DRO)	BRL	0.1 mg/l									
Surrogate: 1-Chlorooctadecane	0.0386	mg/l	0.0500		77.2	40-140					
LCS (5101846-BS1)			Prepared:	31-Oct-0	5 Analyze	d: 01-Nov	-05				
Fuel Oil #2	9.4	0.1 mg/l	10.0		94.0	40-140					
Surrogate: 1-Chlorooctadecane	0.107	mg/l	0.0500		214	40-140			S-0.		
Batch 5110073 - SW846 3550B											
Blank (5110073-BLK1)			Prepared:	02-Nov-0	)5 Analyze	d: 03-Nov	<b>/-</b> 05				
Gasoline	BRL	133 mg/kg									
Fuel Oil #2	BRL	133 mg/kg									
Fuel Oil #4	BRL	133 mg/kg									
Fuel Oil #6	BRL	133 mg/kg									
Motor Oil	BRL	133 mg/kg									
Ligroin	BRL	133 mg/kg									
Aviation Fuel	BRL	133 mg/kg									
Unidentified	BRL	133 mg/kg									
Other Oil	BRL	133 mg/kg									
Total Petroleum Hydrocarbons	BRL	133 mg/kg									
Surrogate: 1-Chlorooctadecane	3.71	mg/kg	3.33		111	40-140					
LCS (5110073-BS1)			Prepared:	02-Nov-0	5 Analyze	:d: 03-Nov	<b>/-</b> 05				
Fuel Oil #2	588	13.3 mg/kg	667		88.2	40-140					
Duplicate (5110073-DUP1)	Sou	rce: SA36288-10	Prepared:	02-Nov-0	)5 Analyze	d: 03-Nov	⁄-05				
Gasoline	Calculated as	18200 mg/kg		BRL							
Fuel Oil #2	BRL	18200 mg/kg		BRL							
Fuel Oil #4	BRL	18200 mg/kg		BRL							
Fuel Oil #6	BRL	18200 mg/kg		BRL				50			
Motor Oil	BRL	18200 mg/kg		BRL				50			
Ligroin	BRL	18200 mg/kg		BRL				50			
Aviation Fuel	BRL	18200 mg/kg		BRL				50			
Unidentified	1000000	18200 mg/kg		1000000			0.00	50			
Other Oil	Calculated as	18200 mg/kg		BRL				50			
Total Petroleum Hydrocarbons	1000000	18200 mg/kg		1000000			0.00	50			
Surrogate: 1-Chlorooctadecane	12400	mg/kg	456		NR	40-140			S-0		

### **Notes and Definitions**

\*TPH Calculated as

QC-1 Analyte out of acceptance range.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable

LCS recovery.

S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic

compounds present in the sample extract.

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

NR Not Reported

RPD Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

### Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.

Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel

Fuel Oil #4 - includes #4 fuel oil

Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil

Motor Oil - includes virgin and waste automobile oil

Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha

Aviation Fuel - includes kerosene, Jet A and JP-4

Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as \*TPH (Calculated as).

<u>Laboratory Control Sample (LCS)</u>: A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

<u>Surrogate</u>: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and

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